

STIC Search Report Biotech-Chem Library

STIC Database Tracking Number 1985

TO: Bao-Qun Li

Location: REM-3D24/3C18

Art Unit: 1648

Wednesday, May 17, 2006

Case Serial Number: 10/764985

From: Toby Port

Location: Biotech-Chem Library

REM-1A59

Phone: (571)272-2523

toby.port@uspto.gov

Searon Notes

Dear Examiner Li,

See attached results.

If you have any questions about this search feel free to contact me at any time.

Thank you for using STIC search services!

Toby Port Technical Information Specialist STIC Biotech/Chem Library (571)272-2523



This Page Blank (uspto)



Comments:

STIC SEARCH RESULTS FEEDBACK FORM

Biotech-Chem Library

Voluntary Results Feedback Form

Questions about the scope or the results of the search? Contact the searcher or contact:

Mary Hale, Information Branch Supervisor Remsen Bldg. 01 D86 571-272-2507

>	I am an examiner in Workgroup: Example: 1610
. >	Relevant prior art found, search results used as follows:
	☐ 102 rejection
•	☐ 103 rejection
	☐ Cited as being of interest.
	Helped examiner better understand the invention.
·	☐ Helped examiner better understand the state of the art in their technology.
	Types of relevant prior art found:
	☐ Foreign Patent(s)
	□ Non-Patent Literature (journal articles, conference proceedings, new product announcements etc.)
>	Relevant prior art not found:
	Results verified the lack of relevant prior art (helped determine natentability)

able means was the collection of the collection



Results were not useful in determining patentability or understanding the invention.

This Page Blank (uspto)

ĕ

```
Procein e
Plant ful
Arabidops
Thale cre
Arabidops
Arabidops
Herbicida
                                                                                  Polypepii
Drosophil
Brosophil
Bacterial
Insulin/i
Insulin r
Insulin r
Insulin r
Insulin r
Insulin r
Insulin r
                                                                                                                                                                           Insulin g
IGF-1R/IR
Insulin a
                                                                                                                                                                                                        Human gen
Propionib
Propionib
Vetispira
5-epi-Ari
Vetispira
Tobacco 5
Potato ve
Hyoscyamu
Ribosomal
                                                                                                                                                                                                                                                                                                 Ribosomal
Novel hum
Plant ful
Human pro
                                                                                                                                                                                                                                                                                                                                                                Maize Sta
Anti-HAAH
Apis cera
Bee phosp
Rat Prote
Human G p
Human col
Corn phos
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Drosophil
Plant ful
S. epider
Plant ful
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Protein e
Plant ful
Novel hum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           E. faeciu
Putative
T. gondii
T. gondii
Pinus rad
Novel hum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S. manson
Plant ful
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Bacterial
                                                                                                                                                                                                                                                                                                                                              Heavy
                                                                                                                                                                                                                                                                                                                                                         Human
          Abu41410
Ady24554
Adq244554
Adq244554
Adq244554
Adq442269
Abb92358
Add442269
Add442269
Add442269
Add7944
         ABU41410
AADY24554
AADY24554
AADY24554
AADY24554
AADY24554
AADY24554
AADG4220
ABB92358
AAG42226
AAB92358
ABB92358
ABB92358
ABB92358
ABB92358
AAB952353
AADH675273
ADH675273
ADH77527
ABG26127
ABG26225
AAN11635
ADC86093
AAN11027
ABB70518
AAN110570
ADC96093
AAN296683
AAN296683
AAN296683
AAN296683
AAN296683
AAN296683
AAN296683
AAN296683
AAN296683
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAE37328
ADX74695
AEA24176
                                                                                                                              Vaccinia
MVA C7L e
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Vaccinia
Ricordea
Plant pol
Arabidops
Arabidops
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Protein e
Protein e
Klebsiell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  o o
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Vaccinia
Vaccinia
Vaccinia
Vaccinia
Vaccinia
Vaccinia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Protein e
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                L. pneumo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gonorr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Protein (
Protein (
                                                                                                                                                                                                                                                                                                                                                                             Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                         ; Search time 232 Seconds (without alignments) 17.737 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Adri2417 \
Adri2435 \
Adri2433 \
Adri2434 \
Adri2434 \
Adri2442 \
Adri2444 \
Adri2443 \
Adri2443 \
Adri2443 \
Adri2443 \
Adri2445 \

       GenCore version 5.1.8
Copyright (c) 1993 - 2006 Biocceleration Ltd.
                                                                                                                                                                                                    parameters:
                                                                                                                                                               2589679 seqs, 457216429 residues
                                                                                                                                                                                                                                                 Post-processing: Listing first 1000 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                   SUMMARIES
                                          protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADRI2417
ADS6666
ADRI2433
ADRI2433
ADRI2434
ADRI2434
ADRI2437
ADRI2436
ADRI2436
ADRI2436
ADRI2436
ADRI2436
ADRI2436
ADRI2436
ADRI2436
ADRI2433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AEB39625
ABP78086
ABU37336
ABU37892
                                                                                                                                  OLIGO
Gapop 60.0 , Gapext 60.0
                                                                                                                                                                                                 Total number of hits satisfying chosen
                                                            06:11:57
                                                                                                                                                                                                                                                                          geneedp1980s:*
geneedp1990s:*
geneedp2000s:*
geneedp2001s:*
geneedp2003s:*
geneedp2003as:*
                                                                                                                                                                                                                                                                                                                                          geneseqp2004s:*
geneseqp2005s:*
geneseqp2006s:*
                                                                                                                                                                                                                    length: 0
length: 2000000000
                                                                                            US-10-764-985-2
9
1 KVDDTFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                               DB
                                                                                                                                                                                                                                                                   Genesed 8:*
                                                           May 17, 2006,
                                                                                                                                                                                                                                                                                                                                                                                                                                               Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ۷
                                                                                                         score:
                                                                                                                                    Scoring table:
                                                                                                                                                                                                                    Minimum DB seq
Maximum DB seq
                                                                                                                                                                                                                                                                                                                                                                                                                                              Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 protein'i
                                                                                                                                                                                size
                                                                                                                 Sequence:
                                                                                                                                                               Searched:
                                                                                               Title:
Perfect 8
                                                                                                                                                                                                                                                                 Database
                                                           Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Result
                                                                                                                                                                                                                                                                                                                                                                                                                                              Ñ.
                                                                                                                                                                                 Word
```

Aag89796 C glutami Aay7438 Neisseria Aay74386 Neisseria Aay74386 Neisseria Aay90302 1-2-rham n Abu38141 Protein e Adt56183 Plant pol Aay74487 Neisseria Abu44153 Protein e Abu44153 Protein e Abu44153 Protein e Am022809 Bacrerial	Apm87867 Rice abio Aawl1641 Human ant Abb92034 Herbicida Abm87991 Rice abio Abg93590 Staphyloc Ads05581 Staphyloc Aar07445 Represibl Aag53799 Arabidops Adm26386 Hyperther Adt56350 Plant pol Adj69412 Human hea Ad944836 Bacterial Aao26537 Sybean h	Add53798 Arabidops Ado2937 Streptoco Ado2937 Streptoco Ado2937 Streptoco Ado2937 S. Pyogen Add1908 Oil-assoc Add2908 Oil-assoc Add2908 Oil-assoc Add2509 Bacterial Add2509 Bacterial Add2710 Pinus rad Adm93809 Human pro Adm31820 Human pro	A4990832 TODBACCO 5 A4990834 TODBACCO 5 A4900835 TODBACCO 6 A4801637 TODBACCO 6 A480177 POEBLO VE A48173 TODBACCO 0 A4990843 POEBLO VE A484917 TODBACCO D A4990843 POEBLO VE A4854977 HUMBAN DEC A4990843 POEBLO VE A482568 M. XANTHU A482568 M. XANTHU A482589 Phi. 29 DN A4825899 Phi. 29 DN
2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	5 5 5 5 6 6 8 8 8 8 8 8 8 8 8 8 8 8 8 8	213 5 55.6 548 3 AAY90832 215 5 55.6 548 3 AAY90834 215 5 55.6 548 3 AAY90834 216 5 55.6 548 3 AAY90834 217 5 55.6 550 2 AAW50055 218 5 55.6 550 5 AAW50055 220 5 55.6 555 5 AAW50095 221 5 55.6 556 3 AAY50843 222 5 55.6 556 3 AAY50843 223 5 55.6 567 9 ABM25568 224 5 55.6 567 9 ABM25568 225 5 55.6 567 9 ABM25568 226 5 55.6 575 6 AAO23897 227 5 55.6 575 6 AAO23897 228 5 55.6 575 6 AAO23897 229 5 55.6 575 6 AAO23897 231 5 55.6 575 6 AAO23897 232 5 55.6 575 6 AAO23897 233 5 55.6 575 6 AAO23891 234 5 55.6 575 6 AAO23891 235 5 55.6 575 6 AAO23891 236 5 55.6 575 6 AAO23891 237 5 55.6 575 6 AAO23891 238 5 55.6 575 6 AAO23891 239 5 55.6 575 6 AAO23891 240 5 55.6 575 6 AAO23891 241 5 55.6 575 6 AAO23891 242 5 55.6 575 6 AAO23899
		плисиппиппиппиппи	Add02198 B2L viral Add02198 B2L viral Add02208 B2L viral Adj63965 Parapox v Adj63965 Parapox v Adj63965 Parapox v Adj66065 Parapoxvi Add0148 D1701 B2L Adx01346 Envelope Adx99482 L050ba ac Adx995482 L050ba ac Abm67123 Photorhab Adx99482 L050ba ac Abm67123 Photorhab Adx995855 Autoantig Abm67420 Bacterial Aay95855 Autoantig Aby26778 Accein e Aay36778 Candida a Aeb41690 L. pneumo Ads27786 Bacterial Aeb38420 L. pneumo Ads27786 Bacterial Aeb38420 L. pneumo Ads27786 Protein e Ady36582 N. gonorr Abu37208 Protein e Ady86237 Tobacco e Add0792 Mycobacte Adm00792 Mycobacte Adm00792 Mycobacte Aead3233 L. rhamno Aed3233 L. rhamno
1794 1449 18716 3599 6375 6377 6373 8018 8018	AGSU, 440 AGS1074 AG51074 AG51074 AG14587 AG20739 AG20739 AG20739 AG14586 AG11073 AG110330	AAG20738 AAG20738 AAG51072 AAG52858 ADK62318 ADK62318 ADK62318 ADK1485 ABU44842 ABU50533 AAG1485 ABU15092 ABU15092 ABU15092 ABU15092 ABU15092 ABU15092 ABU15092 ABU15092 ABU15092 ABU15092 ABU15092 ABU15092 ABU15092 ABU15092 ABU15092 ABU15092	AAB08467 ADD02198 ADD02198 ADJ63965 ADJ63963 ADJ63963 ADJ63963 ADJ64064 ADJ601346 ADJ601348 ADJ601348 ADJ60136

Aab18167 Plasmodiu Abr53440 Procein B AdK64644 Disease t Adv16756 B. faccal Ad43550 Baccerial Aau00016 Human Ple Adw23577 Lacrobaci Adw23579 Lacrobaci Adw23579 Lacrobaci Adw23579 Lacrobaci	Adw23480 Lactobaci Adw23581 Lactobaci Abb52635 Bscherich Adn23885 Baccerial Adn23886 Baccerial Adj95084 Owoel NOV Aab48494 Antifibri Aab88494 Antifibri	Aau196830 Amyloid t Aau11669 Peptide # Aae35456 Abeta pep Adq37310 Antifibri Adq3733 Antifibri Adq37281 Vaccine a Ady37940 Amyloid-t Aae10573 Human RSV Abp66454 Human RSV Abp66444 Human RSV	Abu69307 Respirato Abu69316 Respirato Ade35015 SYNAGIS a Ade35801 SYNAGIS a Ade35802 SYNAGIS a Ad156973 RSV antib Ad156973 RSV antib Ad186977 RSV antib Ad19877 RSV antig Adv19977 RSV antig Adv19977 RSV antig Adv19978 RSV antig Adv19978 RSV antig	RSV-spe RSV-spe SYNAGIS SYNAGIS SYNAGIS SYNAGIS Interna Hepatit Hepatit Imunno Human B B15 cla B15 cla Haemoph	Abg96578 Human leu Abg9678 Human leu Abg99187 ExbBz cel Abr75537 Liver res Ad198379 Human leu Ad198420 Human leu Ad1984304 Human leu Ad10535 Liver res Adk03348 Hepgtitis Adp26067 Plasmodiu
w <i>n v v v v v v v v v v</i>	004001441	സ സ 	, 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	7 9 AEB06926 7 9 AEB06859 7 9 AEB06835 7 9 AEC7654 7 9 AEC76721 7 10 AEC76730 7 10 AEC9130 8 10 AEC43115 8 10 AEC43715 9 2 AAV47053 9 3 AAB45577 9 5 ABB76335 9 5 ABB76335 9 5 ABB76335 9 5 ABB76335 9 5 ABB76335	0000000000000
55.66 56 56 56 56 56 56 56 56 56 56 56 56 5	20000000000000000000000000000000000000	ज ज ज ज ज ज ज ज ज ज ज ज ज ज ज ज ज ज ज ज	਼ਿਰਾਰਾਰਾਰਾਰਾਰਾਰਾਰਾਰਾਰਾਰ	जं ज	
316 3117 318 323 323 323 323	9 2 2 6 8 9 2 2 6 8 9 2 2 6 8 9 2 2 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	1		8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	9 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
Aao23913 Phi-29 DN Aao23905 Phi-29 DN Aao23908 Phi-29 DN Aao23908 Phi-29 DN Aao23908 Phi-29 DN Aao23901 Phi-29 DN Aao23901 Phi-29 DN Aao23903 Phi-29 DN Aao23903 Phi-29 DN	Aa023890 Phi-29 DN Aa023879 Phi-29 DN Aa023884 Phi-29 DN Aa023805 Phi-29 DN Aa023902 Phi-29 DN Aa023904 Phi-29 DN Aa023906 Phi-29 DN	Add4804 Kice proc Add48740 Kice proc Abm93080 M. xanthu Aau87287 Novel cen Adi54602 Novel hum Ady70698 Human BAC Abb69507 Drosophil Aab95404 Human pro Abb83435 Human pro Add48005 Human Pro Add48003 Rat Proce Add48007 Rat Proce	Add48009 Human Pro Ade62512 Human Pro Ade62512 Human Pro Ade62510 Rat Prote Abm81668 Tumour-as Adv33911 Pea NFR1B Adv23911 Pea NFR1B Adv23918 Pea NFR1B Adv2681 Protein e Ad03440 5-keto-D- Abb67779 Drosophil Adx10388 P. gingiv Adv27338 Bacterial Add18994 Human dis	Adp23526 PRO polyp Ade87026 Human che Abb59658 M. catarr Ad98960 C. albica Ad37330 Chlamydia Ad74391 Thale cre Ab924930 Novel hum Ab061995 X Rbbsiell Ab921280 Novel hum Ab0419678 Protein e Ab149678 Protein e Ab141677 Ad881167 Ab141677 Ab141677 Ab141677 Ab1416781 Ab141678 Ab1	Dilasso Sire abio Dilasso Streptoc Protein Chlamydi Novel hu Photorhal Pseudomo Aspergil
55.6 50.6 50.6 50.6 50.6 50.6 50.6 50.6	55.6 575 6 5	55.6 578 6 55.6 581 9 55.6 602 4 55.6 602 9 55.6 603 4 55.6 613 4 55.6 617 7 55.6 617 7 55.6 617 7 55.6 617 7 55.6 617 7 55.6 617 7 55.6 617 7 55.6 617 7 55.6 617 7 55.6 617 7 55.6 617 7 55.6 617 7 55.6 617 7 55.6 617 7 7 55.6 617 7 7 55.6 617 7 7 55.6 617 7 7 55.6 617 7 7 55.6 617 7 7 55.6 617 7 7 55.6 617 7 7 55.6 617 7 7 55.6 617 7 7 55.6 617 7 7 55.6 617 7 7 55.6 617 7 7 7 55.6 617 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	55.6 617 7 55.6 617 7 55.6 617 7 55.6 617 7 55.6 617 8 55.6 652 652 652 652 652 652 652 652 652 65	5 55.6 735 8 ADP23526 5 55.6 735 10 AEE87026 5 55.6 739 8 ADL04598 5 55.6 784 8 ADL04598 5 55.6 784 8 ADL04598 5 55.6 807 8 ANN74391 5 55.6 819 4 ABG21280 5 55.6 825 7 ABG21280 5 55.6 869 6 ABG7137 5 55.6 869 6 ABG71407 5 55.6 869 7 ADL87167 5 55.6 869 7 ADL87167 5 55.6 893 7 ADL87167 5 55.6 899 5 ABB31609	55.6 937 8 55.6 946 7 55.6 953 5 55.6 953 6 55.6 956 7 55.6 1113 7 55.6 1163 8 55.6 1163 8
			2244 22244 22224 22222 2222 2222 2222		

Aed21559 Mycobacte Aed21560 Mycobacte Aed21556 Mycobacte Aax49461 HLA-A30 p Adk69565 Epitope 1 Adu80761 Staphyloc Aax49389 HLA-Cw9 p Aax49389 HLA-Cw9 p Aax49398 HLA-Cw9 p Aax49398 Human IgE Ady26791 Human IgE Ady26791 Human ant Ady26791 Human pla Ady39840 HLA-Cy po Aax49394 HLA-C pos Aax49393 HLA-C pos Ady35170 Neglected Ady35170 Neglected Ady35110 HLA bindi Adw35110 HLA bindi Adw35107 HLA bindi	Adw35112 HIA bindi Adw35109 HLA bindi Adw35109 HLA bindi Adv35109 HLA bindi Adv36589 G protein Adv38489 Antigenic Aaw00599 Heparan 8 Aaw40599 Heparan 8 Aav40310 Transport Aar49391 HLA-C pos Aar49391 HLA-C pos Aar49331 HLA-C pos Aar49331 HLA-C pos Aar49331 HLA-C pos Aar49331 Transport Abab39086 Human sec Abo12608 Human sec Abo12608 Human sec Abo12608 Human gen Adw42755 Peptide o Aay72971 Mouse typ Aeas3919 Human ben Aam6739 Human ben Aam6739 Human ben Aam5339 Human ben Aam5339 Human ben Abg36393 Human ben Abg36393 Human ben Abg36393 Human ben Abg36393 Human ben Abg36394 Human ben Abg36394 Human ben Abg36394 Human ben Abg3646 Human mus
44.4 15 9 AED21559 44.4 15 9 AED21556 44.4 16 8 ADX69561 44.4 16 8 ADX69565 44.4 16 8 ADX69565 44.4 17 2 AAR49398 44.4 17 2 AAR3938 44.4 17 2 AAR393861 44.4 17 2 AAR393861 44.4 17 2 AAR393861 44.4 17 2 AAR393861 44.4 17 10 AEB27404 44.4 17 10 AEB27404 44.4 17 10 AEB27404 44.4 17 10 AEB27404 44.4 19 3 AAR49339 44.4 19 2 AAR49383 44.4 20 3 AAR49383 44.4 20 7 AAR3296 44.4 20 7 AAR3296 44.4 20 7 AAR3296 44.4 20 7 AAR3296 44.4 20 7 AAR3298 44.4 20 7 AAR3298 44.4 20 7 AAR3298 44.4 20 7 AAR3298 44.4 20 7 AAR33877	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4
4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Adr12440 Vaccinia Adr12441 Vaccinia Adr12441 Vaccinia Adr12439 Vaccinia Adr1245 Vaccinia Adr1245 Vaccinia Adr37248 Human CKI Aee5565 RANKL pre Aef55693 Soluble M Aef95636 SHLA-B15 Aar79781 Rabbit te Aaw72663 Antigenic Aaw42662 Antigenic Aaw42662 Antigenic Aaw42662 Antigenic Aaw42663 Soluble M Aef963019 Peptide # Aaw42663 Antigenic Aaw42663 Human leu Adb09019 Peptide # Adv09019 Peptide # Adv	Human Human Human Human Human Human Potent Potent Potent Potent Potent Muman Ii-ke Shiga Shiga Shiga Shiga Shiga Breast Human Cardic Human Cardic Human Huma
44.4 9 8 ADRIZ440 44.4 9 8 ADRIZ441 44.4 9 8 ADRIZ439 44.4 9 9 B ADRIZ439 44.4 9 10 AEF95536 44.4 9 10 AEF95536 44.4 10 2 AAR79781 44.4 11 5 AAR997251 44.4 11 5 AAR997251 44.4 11 5 AAR997251 44.4 11 7 AAD198742 44.4 11 7 AD198742 44.4 11 7 AD198742 44.4 11 0 AEF95894 44.4 11 10 AEF95894 44.4 11 10 AEF95894 44.4 11 10 AEF95894 44.4 11 5 AAR27777	
00000000000000000000000000000000000000	•

Human Human Human Human Human Strept Lebeti Peptid Peptid	Human Human Human Staphy Muld H Wild t Wwild t Kuman Bident Human	Ab25192 Protein # Aam74818 Human bon Aam74818 Human bon Am556599 Human bra Ab344605 Human pep Aam14643 Peptide # Ab40367 Peptide # Abb238422 Peptide # Abb298422 Peptide # Abb19058 Protein # Abm6777 Human bon Aam67777 Human bon Aam73891 Human bon Aam54376 Human bon Aam55842 Human bon Ab955842 Human bon Ab65845 Human bon	Adm02268 Peptide # Abg3643779 Human pep Abg3643779 Human pep Abg30857 Pertussis Abg95632 Human sec Abr01112 Human gen Adv79164 Human pro Adv79178 Human pro Adv79178 Human pro Adv79178 Human pro Adv19228 Amino aci Aab4159 Human sec Aag41659 Human sec Aag41651 Arabidops Abg36025 Human col Aag4685 Human col Aag4685 Human col Abg07470 Human col Abg07470 Human col Abg074254 Human gly Abg07426 Human gly Abg07426 Human gly Abg07426 Human gly Abg074276 Human gly Abg0742776 Legume le Ad195705 Legume le Ad195705 Legume le Ad498705 Human gly Abm61768 Propionib Adw803561 M. xanthu Abg76021 Human GEN	Luna Luna Luna Luna
2011CC0044444	4 4 4 8 6 6 6 7 6 9 9 9 9 9 9 9 9 9 9	'	4 49 4 AAMO2368 4 49 5 ABG430432 4 49 9 ABA30857 4 49 9 ABA30857 4 50 6 ABB999632 4 50 6 ABB999632 4 50 8 ADU79164 51 2 AAX19528 4 51 2 AAX19528 4 51 3 AAG45159 4 51 5 ADG563 4 51 5 ADG563 4 52 6 ABB07470 4 52 6 ABB07470 4 52 8 ADM01104 52 8 ADM01104 53 8 ADM813561 54 54 6 ABB93561 54 55 8 ADM01104 55 8 ADM93561 55 6 ABB93561 56 6 ABB93561 57 6 ABB93561 58 6 ABB93561 58 6 ABB93561 59 6 ABB93561	
	य य य य य य य य य य य य य य य य	' ज ज ज ज ज ज ज ज ज ज ज ज ज	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	• • • • • • • • • • • • • • • • • • •
Ady30798 Human epi Ady30797 Human epi Aef22082 Human ecor Aee38354 Human ser Abg99540 Conus sp Abg99586 Conus sp Abc23567 Helicobac Aar75095 Rat SIII Ada95213 Protein d Aee38056 Human ser Aef13661 Human MBL	numan nman nman pyel pyel pyel nman nman nman nman nman nman nman nma	Abb39710 Peptide # Amm31287 Peptide # Amm73068 Human bon Amm60428 Human bra Abg54782 Human ww Abg42912 Human ww Abg42912 Human ww Abg42912 Human ww Abg42912 Movel hum Ab643788 Lebetin 2 Abo5521 Human gen Adv13140 Human gen Adv1305 Protein C Amy1905 Protein C	Address Section Advisor Imma Abresses Advisor Regulator Adf 69907 AcmA-type Adp79566 Human MAD Aaw82294 Dynamin 4 Adp79566 Human MAD Aaw82294 Dynamin 4 Adp79574 Novel hum Abu19571 Protein e Ady20643 PRO polyp Aay18297 Modified Aay18299 Modified Aay18299 Modified Aay18309 Modified Aay18309 Modified Aay18309 Modified Aay18309 Modified Aay18309 Human pro Add50094 Human pro Add50094 Human gen Add56906 Human pro Adz14076 Human pro Adz14076 Human pro Adz14076 Human pro Adz14077 Partial h	Aam33007 Peptide # Aam87412 Human imm Abg23995 Novel hum Abb79946 Human pro Abb79949 Human pro
4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	44444888888898988888888888888888888888	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	44.4 412 6 ABR57036 44.4 42 6 ABR57036 44.4 42 7 ABR57036 44.4 43 2 AAW18294 44.4 43 2 AAV18297 44.4 44 2 AAV18297 44.4 44 2 AAV18299 44.4 44 2 AAV18299 44.4 44 2 AAV18298 44.4 44 2 AAV18298 44.4 44 2 AAV18298 44.4 44 2 AAV18303 44.4 44 2 AAV18303 44.4 44 2 AAV18303 44.4 44 7 ADD50094 44.4 44 9 ADD50094 44.4 44 9 ADS14055 44.4 44 9 ADS14077 44.4 44 9 ADS14077 44.4 44 9 ADS14077	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4
•		यं य	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	ਧਾ ਧਾ ਧਾ ਧਾ

Abm64244 Propionib Aag42912 Arabidops Aag90746 Arabidops Aau509746 Arabidops Aau55093 Propionib Adh69531 Insulin-1 Aag01175 Human gen Aag01175 Human gen Aag10905 Human GRF Aag32879 Zea mays Aag32879 Zea mays	Novel Humar Humar Borre Prote Prote Humar Humar Humar Humar Propi Novel	Adb61813 Human inh Adb61813 Human inh Adk48020 Streptoco Adx79550 Novel S. Aea58375 Streptoco Aar72540 ADP-ribos Aay41811 Escherich Aay43019 Mutant Sh Aay43009 Mutant Sh Aay43009 Mutant Sh Aay43009 Mutant Sh Aay43007 Mutant Sh Aay43007 Mutant Sh Aay43005 Mutant Sh Aay43005 Mutant Sh Aay43005 Mutant Sh Aay43005 Mutant Sh Aay43012 Mutant Sh	AA922733 Zea mays Aa92284 Human dig Abb14787 Human ner Aab66234 E coli he Ad139753 E. coli o Adx89931 Plant ful Adv34850 Shiga tox Abp73850 N. genorr Abb77947 Pseudomon Adx95352 Plant ful Am94713 M. xanthu Amb53126 Human ORF Ad167705 Bacterial Abb53126 Human Gen Aav71701 Truncated Aay90847 Cotton de Abr01705 Human bre Adv51931 Phage SPO Au62590 Propionib Aab50534 Mouse C-C Abm59109 Propionib Aab50534 Mouse C-C Abm74310 DNA clone Ad429111 Arabidops Am4245311 Human pol Adm24532 Human pol Adm24532 Human PRO Adm3511 Human pol
Რ ୴ ୴ ಈ ಈ ൽ ୴ ಈ ₧ ୴ ಈ		~ C & & & & A A A A A A A A A A A A A A A	69 3 AAG22733 69 4 AAB14787 69 4 AAB14787 69 8 ADF39353 69 8 ADF39353 69 9 ADV348501 70 7 AB077947 70 8 ABN94713 71 7 ABD77947 71 7 ABD77947 71 7 ABB50535 71 7 ABB50535 71 7 ABB50535 71 8 AAF065689 72 2 AAW71701 72 2 AAW71701 72 3 AAY50847 72 3 AAY50847 73 4 AAB59109 73 7 ABM74310 74 4 AAM43511 74 8 ADM24532 74 8 ADM24532
चंचंचंचंचंचंचंचंचंचं		ਰ ਚਾ ਚਾ ਚਾ ਚਾ ਹਾ ਹਾ ਹਾ ਹਾ ਹਾ ਹਾ ਹਾ ਹਾ ਹਾ	
755 755 756 758 759 761 761	765 766 768 770 772 775 775 776 777 778 778	7882 7885 7886 799 799 799 799	800 800 800 800 800 800 811 811 811 811
Abm41155 Propionib Abm47442 Propionib Aar11103 Bovine bo Aar11102 Human bec Aam1777 Beptide # Aam3028 Peptide # Aam3028 Peptide # Aam86357 Human liv Abp62961 Human liv Aby62961 Human liv Aby62961 Human liv Aby62961 Human liv	BPTI (BP	BOVING	Aww80093 Bovine pa Aww80095 Bovine pa Aww80058 Bovine pa Aww80058 Bovine pa Aww80089 Bovine pa Aww80089 Bovine pa Aww80089 Bovine pa Aww80095 Bovine pa Aww80005 Bovine pa Aww80002 Bovine pa Aww80002 Bovine pa Aww8004 Bovine pa Aww80054 Bovine pa Aww80054 Bovine pa Aww80024 Human imm App00924 Human imm App00924 Human oRF Agy0873 Yeast Nup Apy0873 Yeast Nup Apy0875 Yeast Nup Apy0879 Yeast Nup Apy0879 Yeast Nup Apy0879 Human oRF Ae91657 HLA-B*400
4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	4 44.4 58 2 AAW80093 4 44.4 58 2 AAW80099 4 44.4 58 2 AAW80099 4 44.4 58 2 AAW80081 4 44.4 58 2 AAW80081 4 44.4 58 2 AAW80089 4 44.4 58 2 AAW80089 4 44.4 58 2 AAW80089 4 44.4 58 2 AAW80009 4 44.4 58 2 AAW80009 4 44.4 58 2 AAW80009 4 44.4 58 2 AAW8002 4 44.4 58 2 AAW8002 4 44.4 58 2 AAW8002 4 44.4 58 2 AAW8009 4 44.4 60 2 AAY0892 4 44.4 60 10 AEE9165 4 44.4 60 10 AEE9165 4 44.4 62 3 AAW81899 4 44.4 62 3 AAW81899 4 44.4 62 4 AAW818999 4 44.4 62 4 AAW818999 4 44.4 62 4 AAW818999
			77777777777777777777777777777777777777

Adk99932 Streptoco Adk99929 Streptoco Adk99930 Streptoco Adk99931 Streptoco Adk99931 Streptoco Adk99933 Streptoco Adk99938 Streptoco Adk99938 Streptoco Adk99936 Streptoco	Aea51021 Gossypium Aaw71700 CKs1At pr Aag05143 Arabidops Aam84966 Human imm Aab62383 Shiga tox Aau29445 Human G p Abg60733 Novel G p Abg62867 Human pol Adx82413 Phenol hy Aaw06406 Verotoxig Aaw06404 Verotoxig Aaw58830 Shiga tox Aaw58828 Shiga tox Aaw58828 Shiga tox Aaw96684 E. coli v Aay96682 E. coli v Aay96682 E. coli v Aay1326 Peptide #		
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	оии 4 4 4 п го в и и и и и и 4 4	* 4 4 4 4 4 4 4 4 4 4 4 6 10 10 10 10 10 10	4 89 7 ADCO0244 4 89 7 ADCO0244 8 9 7 ADE46142 4 89 7 ADE46142 4 89 7 ADE46142 4 89 7 ADE46142 4 90 2 AAYS5744 4 90 3 AAB40644 9 0 3 AAB4064457 4 90 6 ABR37457 4 90 6 ABR37175 4 90 6 ABR37175 4 90 6 ABR57175 4 90 6 ABR57175 4 90 9 ADZ85785 4 90 9 ADZ85765 4 90 9 ADZ85765
यं		' चं	
Adm97959 Sesquiter Adm97956 Germacren Ady60119 Abiotic s Aea51016 Citrus ju Aea51013 Tomato ge Aag09745 Arabidops Aam24190 Human EST Abb11010 Human sec Aao012959 Human sec Aao01295 Human pol	Add 4405 Movel hum Ad104493 M. catarr Aam87658 Human imm Aau4441 Propionib Abu441360 Propionib Abu41360 Staphyloc Aag05920 Arabidops Abol0618 Human pol Abu43322 Protein e Abl6546 Bacteriop Abg39647 Conus sp Abg3640 Human syn Ada05631 IGF-IR ag Ada05631 IGF-IR an Abm64595 Propionib Ad165935 Insulin-1	Ad169515 Insulin-1 Aee69701 Human pap Aee69714 Human pap Aag01174 Human sec Amm18309 Peptide # Amm70472 Human bon Aam05915 Peptide # Abg40111 Human pep Abg99539 Conus sp Abg32367 Human pho Adc88098 Ribosomal Adc88098 Ribosomal Adc88098 Ribosomal Adc8809 Ribosomal Adc8809 Ribosomal Adc8809 Ribosomal Adc8809 Ribosomal Adc8809 Ribosomal Add48869 Oil-assoc Abb38582 Peptide # Amm32035 Peptide # Amm32035 Peptide #	Amm55208 Human Dra Abg53428 Human liv Au31185 Novel hum Abp03391 Human ORP Abg41557 Human pep Ad8611557 Human pep Ad861173 Straphyloc Ag68178 Human con Abp81109 Streptoco Abg465 Protein e Ad65451 Rat Prote Ad65451 Rat Prote Ad65452 Rat Prote Ad65452 Rat Prote Ad65452 Rat Prote Ad65453 Rat Prote Ad669029 Straphyloc Ad69903 Straphyloc Ad69991 Streptoco Abo60637 Human gen Ad69991 Conus sp Ab69981 Conus sp Ab69981 Conus sp Ab69991 Streptoco Ad69992 Streptoco Ad69992 Streptoco Ad69992 Streptoco Amm89909 Human imm Adb07132 Alloiococ
44444400000000000000000000000000000000	10044004400400000	8 8 8 9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	4 80 4 AAMS9208 4 80 5 ABC53428 80 5 ABC9311 4 80 5 ABP38663 4 80 5 ABC9311 4 80 5 ABC9311 4 80 5 ABC9311 4 81 6 ABC9208 4 81 7 ADC5457 4 81 7 ADC54519 4 81 7 ADC54519 4 81 7 ADC5451 4 81 7 ADC5451 4 81 7 ADC5451 4 81 7 ADC5451 4 81 8 ADC0014 8 3 AAC30539 4 8 3 AAC30539 4 8 3 AAC30539 4 8 3 AAC30537 4 8 4 3 AAC53112 4 8 4 5 ABC99614 6 8 8 ADC9013 6 8 ADC9013 6 8 8 ADC9013 6 8 8 ADC9013 6 8 8 ADC9013 6 8 8 ADC9013
4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4			

1,1

Gaps

ö

Indels Length 9;

```
Virucide; vaccine; virus; Vaccinia virus; host range gene; avipoxvirus;
                                                                                                                                                                                                                                                                                                                                                                                                                 New avipoxvirus comprising in the viral genome a Vaccinia virus host range gene or a homologue of the host range gene, useful for the preparation of a medicament or as a vaccine for affecting immunological response in human.
                             100.0%; Score 9; DB 8; Lr
100.0%; Pred. No. 2.1e+06;
iive 0; Mismatches 0;
                                                                                                                                                                                               MVA C7L encoded amino acid sequence, seq id 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Disclosure; SEQ ID NO 2; 53pp; English.
                                                                                                                                       ADJ66069 standard; protein; 150 AA.
                                                                                                                                                                                                                                               Vaccinia virus (strain Ankara).
                                                                                                                                                                                                                                                                                                         29-JUL-2003; 2003WO-EP008359.
                                                                                                                                                                                                                                                                                                                            07-AUG-2002; 2002DK-00001189.
                                                                                                                                                                                                                                                                                                                                               (BAVA-) BAVARIAN NORDIC AS.
                                                                                                                                                                             (first entry)
                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9; Conservative
                                                                                                                                                                                                                                                                                                                                                                  Howley P, Meisinger C;
                                                                     σ
                                                                                       6
                    Query Match
Best Local Similarity
9; Conserve
                                                                                                                                                                                                                                                                                                                                                                                     WPI; 2004-180680/17.
N-PSDB; ADJ66068.
                                                                                      1 KVDDTFYYV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 KVDDTFYYV
                                                                     1 KVDDTFYYV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                  WO2004015118-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 150 AA;
           Sequence 9 AA;
                                                                                                                                                                              06-MAY-2004
                                                                                                                                                                                                                                                                                      19-FEB-2004.
                                                                                                                                                           ADJ66069;
                                                                                                                                                                                                                             avian
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                    RESULT 2
ADJ66069
                                                                                     용
                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                             Aef79706 E. coli a
Aa06285 Human pol
Aa015475 Rv3879c a
Abo65306 Klebsiell
Aaw82562 Corn glyc
Aay6474 Human 5'
Aae65243 Corn glyc
Aam90556 Human nmm
Apol1546 Human ORF
Abo10505 Novel hum
Aas38777 Corn glyc
Abo00505 Novel hum
Aa838777 Corn glyc
Adv32318 Signal pe
Adv89101 Streptoco
Adv89101 Streptoco
Adv89354 Streptoco
Adv8056 Streptoco
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The invention relates to a method of immunizing an individual against infection by vaccinia and/or variola virus by inducing an immune response against a polypeptide comprising peptide 74A or 165, or its immunogenic fragments or mutants. The method is useful for immunizing an individual against infection by vaccinia and/or variola virus. This sequence represents a vaccinia virus peptide used in the method of the invention.
                                                                    Alloiococ
Albumin f
Albumin f
                                       Human alb
Human alb
Human MDD
                     Human sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Immunizing an individual against infection by vaccinia and/or variola virus comprises inducing an immune response against a polypeptide
                                                                                                                                                                                                                                                                                                                                                                                                                          virucide; vaccine; immunisation; vaccinia; variola; immune response.
                                                                                                                                                                                                                                                                                               ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (UYMA-) UNIV MASSACHUSETTS MEDICAL CENT.
                                                                                                                                                                                                                                                                                                                                                                                                      Vaccinia virus immunisation peptide 165
                                              ABG64788
ABP51250
ADB07134
                                                                                                                                                         AAY64754
AAE05243
AAM90556
ABP01546
AAU76197
ABO00505
                            AAO17222
ABG64786
                                                                            ADL78053
ADL78055
                                                                                                                   AAU79450
ADG15775
                                                                                                                                                                                                                                    ADV89101
ADV80354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 19; SEQ ID NO 2; 32pp; English.
                                                                                                                                      ABO65306
                                                                                                                                               AAW82562
                                                                                                                                                                                                                             ADU72318
                                                                                                                                                                                                                                                                                                                                             ADR12417 standard; peptide; 9 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ennis FA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        compriging peptide 74A or 165.
                                                                                                                                                                                                                                                                                                                                                                                                                                             Vaccinia virus; strain Ankara,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        24-JAN-2003; 2003US-0442846P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      26-JAN-2004; 2004WO-US002141.
                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
 Cruz J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 2004-594031/57
                                                                                                                                                                                                                                                                                                                                                                                                                                                               WO2004067032-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Terajima M,
                                                                                                                                                                                                                                                                                                                                                                                     04-NOV-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   12-AUG-2004
                                                                                                                                                                                                                                                                                                                                                                 ADR12417;
                                                                                                                                                                                                                                                                                                                           RESULT 1
                                                                                                                                                                                                                                                                                                                                      ADR12417
```

```
ö
The invention relates to a new avipoxvirus comprising in the viral genome, a Vaccinia virus host range gene or a homologue of the host range gene, provided that the host range gene is not the B31 gene if the avipoxvirus is a recombinant Canary poxvirus comprising in the viral genome the Vaccinia virus K31 gene as well as expression cassettes for HIV gag-pro, gp120/TM and a Nef/Pol poly-epitope string, respectively. The composition or the vaccine is useful as a drug for affecting, preferably inducing immunological response in a living animal, including a human. The Vaccinia wirus host range gene or its homologue, preferably a human. The variance lister infection of the variance is useful to increase the titer of avipoxviruses a vaccine is useful to increase the citer of avipoxviruses a vaccine is useful to increase the citer of avipoxviruses a vaccine is a vaccine avignovirus, where the host range gene is expressed in the cells. The current sequence represents the amino acid sequence encoded by the C7L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         100.0%; Score 9; DB 8; Length 150; 100.0%; Pred. No. 0.0048; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (host range gene) region of modified Vaccinia Ankara.
```

ADR12435;

RESULT 3

셤

```
The invention relates to a method of immunizing an individual against infection by vaccinia and/or variola virus by inducing an immune response against a polypeptide comprising peptide 74A or 165, or its immunogenic fragments or mutants. The method is useful for immunizing an individual against infection by vaccinia and/or variola virus. This sequence represents a vaccinia virus peptide used in the method of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The invention relates to a method of immunizing an individual against infection by vaccinta and/or variola virus by inducing an immune response against a polypeptide comprising peptide 74A or 165, or its immunogenic fragments or mutants. The method is useful for immunizing an individual against infection by vaccinia and/or variola virus. This sequence
                                                                                                                                                                                           Immunizing an individual against infection by vaccinia and/or variola virus comprises inducing an immune response against a polypeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Immunizing an individual against infection by vaccinia and/or variola
virus comprises inducing an immune response against a polypeptide
comprising peptide 74A or 165.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          virucide; vaccine; immunisation; vaccinia; variola; immune response.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Vaccinia virus immunisation peptide 165 variant #2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2.1e+06;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       88.9%; Score 8; DB 8;
100.0%; Pred. No. 2.1e+(
iive 0; Mismatches
                                                                               (UYMA-) UNIV MASSACHUSETTS MEDICAL CENT.
                                                                                                                                                                                                                                                                       Disclosure; SEQ ID NO 19; 32pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (UYMA-) UNIV MASSACHUSETTS MEDICAL CENT.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Disclosure; SEQ ID NO 20; 32pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ADR12434 standard; peptide; 9 AA
                                                                                                                                                                                                                                   comprising peptide 74A or 165.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Vaccinia virus; strain Ankara.
       26-JAN-2004; 2004WO-US002141.
                                           24-JAN-2003; 2003US-0442846P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   24-JAN-2003; 2003US-0442846P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               26-JAN-2004; 2004WO-US002141.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Local Similarity 100.
                                                                                                                   Cruz J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Cruz J,
                                                                                                                                                         WPI; 2004-594031/57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  σ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WPI; 2004-594031/57.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VDDTFYYV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WO2004067032-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 9 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                04-NOV-2004
                                                                                                                   rerajima M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Terajima M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          12-AUG-2004.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADR12434;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ~
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ADR12434
     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The invention relates to a method of immunizing an individual against infection by vaccinia and/or variola virus by inducing an immune response against a polypeptide comprising peptide 74A or 165, or its immunogenic fragments or mutants. The method is useful for immunizing an individual against infection by vaccinia and/or variola virus. This sequence represents a vaccinia virus peptide used in the method of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Immunizing an individual against infection by vaccinia and/or variola virus comprises inducing an immune response against a polypeptide comprising peptide 74A or 165.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                               virucide; vaccine; immunisation; vaccinia; variola; immune response.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               vaccine; immunisation; vaccinia; variola; immune response.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          88.9%; Score 8; DB 8; Length 9; 100.0%; Pred. No. 2.1e+06; ive 0; Mismatches 0; Indele
                                                                                                                                                                                                         Vaccinia virus immunisation peptide 165 variant #3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Vaccinia virus immunisation peptide 165 variant #1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (UYMA-) UNIV MASSACHUSETTS MEDICAL CENT.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Disclosure; SEQ ID NO 21; 32pp; English.
                                                                                     ADR12435 standard; peptide; 9 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ADR12433 standard; peptide; 9 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ennis FA;
                                                                                                                                                                                                                                                                                     Vaccinia virus; strain Ankara
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Vaccinia virus; strain Ankara.
                                                                                                                                                                                                                                                                                                                                                                                                     26-JAN-2004; 2004WO-US002141.
                                                                                                                                                                                                                                                                                                                                                                                                                                           24-JAN-2003; 2003US-0442846P.
                                                                                                                                                                     (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8; Conservative
82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Cruz J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 2004-594031/57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VDDTFYYV 9
74 KVDDTFYYV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
Matches 8; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2 VDDTFYYV
                                                                                                                                                                                                                                                                                                                         WO2004067032-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WO2004067032-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 9 AA;
                                                                                                                                                                     04-NOV-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Terajima M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 04-NOV-2004
                                                                                                                                                                                                                                                                                                                                                                 12-AUG-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             12-AUG-2004
```

virucide;

ADR12433;

윱

ઠે

ö

Gaps

Wed May 17

```
Jaccinia virus immunisation peptide 165 variant #5.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                      6; Conservative
                                                                                                                                                     Cruz J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Cruz J,
                                                                                                                                                                       WPI; 2004-594031/57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 2004-594031/57.
                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                        DTFYYV 9
                                                         WO2004067032-A2
                                                                                                                                                                                                                                                                                                                                                                                         DTFYYV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WO2004067032-A2
                                                                                                                                                                                                                                                                                                                Sequence 9 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             04-NOV-2004
                                                                          12-AUG-2004
                                                                                                                                                    Terajima M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        12-AUG-2004.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Terajima M,
                                                                                                                                                                                                                                                                                                                                                                         4
                                                                                                                                                                                                                                                                                                                                                                                                                                                          ADR12438;
                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 8
                                                                                                                                                                                                                                                                                                                                                                                                                                ADR12438
 ઠે
                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                             The invention relates to a method of immunizing an individual against infection by vaccinia and/or variola virus by inducing an immune response against a polypeptide comprising peptide 74A or 165, or its immunogenic fragments or mutants. The method is useful for immunizing an individual against infection by vaccinia and/or variola virus. This sequence represents a vaccinia virus peptide used in the method of the invention.
represents a vaccinia virus peptide used in the method of the invention.
                                                                                                                                                                                                                                                                                                                                                                                    Immunizing an individual against infection by vaccinia and/or variola
virus comprises inducing an immune response against a polypeptide
comprising peptide 74A or 165.
                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                   virucide; vaccine; immunisation; vaccinia; variola; immune response.
                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ;
                                   88.9%; Score 8; DB 8; Length 9; 100.0%; Pred. No. 2.1e+06; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 8; Length 9; . 2.1e+06;
                                                                                                                                                                                                 Vaccinia virus immunisation peptide 165 variant #10.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            66.7%; Scor.
100.0%; Pred. No. 2...
0; Mismatches
                                                                                                                                                                                                                                                                                                                                 (UYMA-) UNIV MASSACHUSETTS MEDICAL CENT.
                                                                                                                                                                                                                                                                                                                                                                                                                             Disclosure; SEQ ID NO 28; 32pp; English.
                                                                                                                                        ADR12442 standard; peptide; 9 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ADR12437 standard; peptide; 9 AA.
                                                                                                                                                                                                                                                                                                                                                     Ennis FA
                                                                                                                                                                                                                                     Vaccinia virus; strain Ankara.
                                                                                                                                                                                                                                                                                             26-JAN-2004; 2004WO-US002141.
                                                                                                                                                                                                                                                                                                               24-JAN-2003; 2003US-0442846P
                                                                                                                                                                               (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (first entry)
                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      6; Conservative
                                                                                                                                                                                                                                                                                                                                                    Cruz J,
                                                                         2 VDDTFYYV 9
                                                                                           VDDTFYYV 9
                                                                                                                                                                                                                                                                                                                                                                     WPI; 2004-594031/57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
Matches 6; Conserv
                                             Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 KVDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 KVDDTF
                                                                                                                                                                                                                                                       WO2004067032-A2
                  Sequence 9 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 9 AA;
                                                      .;
8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            04-NOV-2004
                                                                                                                                                                               04-NOV-2004
                                                                                                                                                                                                                                                                                                                                                    Terajima M,
                                                                                                                                                                                                                                                                          12-AUG-2004
                                                                                                                                                            ADR12442;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ADR12437;
                                    Query Match
                                                      Matches
                                                                                                                        RESULT 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ADR12437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT
SXS
                                                                                           쉱
                                                                                                                                                            ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2XXX2X
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        원
```

```
The invention relates to a method of immunizing an individual against infection by vaccinia and/or variola virus by inducing an immune response against a polypeptide comprising peptide 74A or 165, or its immunogenic fragments or mutants. The method is useful for immunizing an individual against infection by vaccinia and/or variola virus. This sequence represents a vaccinia virus peptide used in the method of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Immunizing an individual against infection by vaccinia and/or variola virus comprises inducing an immune response against a polypeptide comprising peptide 74A or 165.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Immunizing an individual against infection by vaccinia and/or variola
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
virucide; vaccine; immunisation; vaccinia; variola; immune response.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     immunisation; vaccinia; variola; immune response.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        66.7%; Score 6; DB 8; Length 9; 100.0%; Pred. No. 2.1e+06; ive 0; Mismatches 0; Indel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Vaccinia virus immunisation peptide 165 variant #6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (UYMA-) UNIV MASSACHUSETTS MEDICAL CENT.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Disclosure; SEQ ID NO 23; 32pp; English,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (UYMA-) UNIV MASSACHUSETTS MEDICAL CENT.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ADR12438 standard; peptide; 9 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ennis FA;
                                                                               Vaccinia virus; strain Ankara
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Vaccinia virus; strain Ankara
                                                                                                                                                                                                                                                                                                                   26-JAN-2004; 2004WO-US002141.
                                                                                                                                                                                                                                                                                                                                                                                                       24-JAN-2003; 2003US-0442846P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 24-JAN-2003; 2003US-0442846P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     26-JAN-2004; 2004WO-US002141
```

```
ADR12436 standard; peptide; 9 AA
                          RESULT 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                     ADR12436
                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 # X D X # X 8 X X X E X H X Y X
                                                                                                                                                                                ö
                                                             infection by vaccinia and/or variola virus by inducing an immune response against a polypeptide comprising peptide 74A or 165, or its immunogenic fragments or mutants. The method is useful for immunising an individual against infection by vaccinia and/or variola virus. This sequence represents a vaccinia virus peptide used in the method of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The invention relates to a method of immunizing an individual against infection by vaccinia and/or variola virus by inducing an immune response against a polypeptide comprising peptide 74A or 165, or its immunogenic fragments or mutants. The method is useful for immunizing an individual against infection by vaccinia and/or variola virus. This sequence represents a vaccinia virus peptide used in the method of the invention.
                                                     invention relates to a method of immunizing an individual against
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Immunizing an individual against infection by vaccinia and/or variola virus comprises inducing an immune response against a polypeptide comprising peptide 74A or 165.
                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                       virucide; vaccine; immunisation; vaccinia; variola; immune response.
virus comprises inducing an immune response against a polypeptide comprising peptide 74A or 165.
                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                      66.7%; Score 6; DB 8; Length 9; 100.0%; Pred. No. 2.1e+06; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 8; Length 9; 2.1e+06;
                                                                                                                                                                                                                                                                                                                                                 Vaccinia virus immunisation peptide 165 variant #12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             66.7%; Score 6; DB 8
100.0%; Pred. No. 2.1
:ive 0; Mismatches
                               Disclosure; SEQ ID NO 24; 32pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (UYMA-) UNIV MASSACHUSETTS MEDICAL CENT.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Disclosure; SEQ ID NO 30; 32pp; English.
                                                                                                                                                                                                                                                                                  Ź
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ennis FA
                                                                                                                                                                                                                                                                                                                                                                                            Vaccinia virus; strain Ankara.
                                                                                                                                                                                                                                                                               ADR12444 standard; peptide; 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                              26-JAN-2004; 2004WO-US002141.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    24-JAN-2003; 2003US-0442846P.
                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity 100.
Matches 6; Conservative
                                                                                                                                                                               6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Cruz J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 2004-594031/57.
                                                                                                                                                       Query Match
Best Local Similarity
                                                                                                                                                                                                   4 DTFYYV 9
                                                                                                                                                                                                                         DTFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            σ
                                                                                                                                                                                                                                                                                                                                                                                                                  WO2004067032-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DTFYYV
                                                                                                                                 Sequence 9 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 9 AA;
                                                                                                                                                                                                                                                                                                                            04-NOV-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Terajima M,
                                                                                                                                                                                                                                                                                                                                                                                                                                        12-AUG-2004
                                                                                                                                                                                                                                                                                                      ADR12444;
                                                                                                                                                                             Matches
g
                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                ઠ
```

```
The invention relates to a method of immunizing an individual against infection by vaccinia and/or variola virus by inducing an immune response against a polypeptide comprising peptide 74A or 165, or its immunogenic fragments or mutants. The method is useful for immunizing an individual
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       against infection by vaccinia and/or variola virus. This sequence represents a vaccinia virus peptide used in the method of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Immunizing an individual against infection by vaccinia and/or variola virus comprises inducing an immune response against a polypeptide comprising peptide 74A or 165.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                         virucide; vaccine; immunisation; vaccinia; variola; immune response.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      virucide; vaccine; immunisation; vaccinia; variola; immune response.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Vaccinia virus immunisation peptide 165 variant #11.
                                                                                           Vaccinia virus immunisation peptide 165 variant #4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 8; Ler
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             100.0%; Prec. ...
                                                                                                                                                                                                                                                                                                                                                                                                                                           (UYMA-) UNIV MASSACHUSETTS MEDICAL CENT.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Disclosure; SEQ ID NO 22; 32pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              66.7%; Score 6; I
100.0%; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADR12443 standard; peptide; 9 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ennis FA;
                                                                                                                                                                                            Vaccinia virus; strain Ankara
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Vaccinia virus; strain Ankara.
                                                                                                                                                                                                                                                                                                                                             26-JAN-2004; 2004WO-US002141.
                                                                                                                                                                                                                                                                                                                                                                                             24-JAN-2003; 2003US-0442846P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  26-JAN-2004; 2004WO-US002141.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Cruz J,
                                             (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 2004-594031/57.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 σ
                                                                                                                                                                                                                                            WO2004067032-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4 DTFYYV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DTFYYV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WO2004067032-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 9 AA;
                                                                                                                                                                                                                                                                                             12-AUG-2004.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Terajima M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        04-NOV-2004
                                           04-NOV-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    12-AUG-2004.
ADR12436;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADR12443;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
```

ô

Gaps

ö

```
nucleic acid molecules encoding such proteins. Sequences of the invention are useful as labelling tools for marking a protein, cell or organism in blochemistry, molecular biology and medical diagnostic applications. Chromoproteins are useful as colouring agents capable of imparting colour or pigment to a particular composition of matter, e.g. food compositions of paramaceuticals or cosmetics, as labels in analyte detection assays, or as selectable markers in recombinant DNA applications. Fluorescent applications, in high-throughput screening assays, as biosensors in prokaryotic and eukaryotic cells e.g. as calcium ion indicator, as phindicator or as phosphorylation indicator, as second messenger detectors, as in vivo markers in transgenic animals, or as fluorescent timers. The present sequence is Ricordea florida green fluorescent protein (ffloGFP)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The invention relates a recombinant DNA construct comprising a Dolynucleocide having any of 5544 nucleotide sequences (CDNAs SEQ ID NO: 1-5544) and encoding a polypeptide with any of 5544 amino acid sequences (SEQ ID NO: 5545-11088). The CDNAs and proteins are from corn, soybean, Arabidopsis, wheat and rape but the specification does not indicate which sequences is derived from which organism. Also included is a method of producing a plant having an improved property, comprising transforming a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  New recombinant DNA constructs useful in the field of biochemistry and genetics, and in particular for producing transgenic plants with improved biological characteristics.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   disease resistance, galactomannan production, plant growth regulator, heat tolerance, herbitoide tolerance, lighin production, extreme osmotic condition tolerance, pathogens resistance, pest resistance, pest resistance, yield improvement, seed oil yield, seed protein yield.
                   invention relates to novel chromo and/or fluorescent proteins and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Plant; transgenic; cold tolerance; growth rate; drought tolerance;
                                                                                                                                                                                                                                                                                                                                                                                                               Length 231;
                                                                                                                                                                                                                                                                                                                                                                                                                                                               0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                               DB 6;
                                                                                                                                                                                                                                                                                                                                                                                                            66.7%; Score 6; DB 6
100.0%; Pred. No. 27;
cive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 2; SEQ ID NO 7035; 14pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ADT56958 standard; protein; 267 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Plant polypeptide, SEQ ID 7035.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        18-DEC-2003; 2003US-00739930.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    28-APR-2003; 2003US-00424599.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         28-APR-2003; 2003US-00425115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                13-JAN-2005 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 2004-757369/74.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (KOVA/) KOVALIC D K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DTFYYV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DTFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US2004216190-A1.
                                                                                                                                                                                                                                                                                                                                                                      Sequence 231 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Viridiplantae.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             28-OCT-2004.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Kovalic DK;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADT56958;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        115
                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADT56958
ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                       The invention relates to a method of immunizing an individual against infection by vaccinia and/or variola virus by inducing an immune response against a polypeptide comprising peptide 74A or 165, or its immunogenic fragments or mutants. The method is useful for immunizing an individual against infection by vaccinia and/or variola virus. This sequence represents a vaccinia virus peptide used in the method of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Chromoprotein; fluorescent protein; colouring agent; food composition; cosmetic; fluorescence resonance energy transfer; calcium ion indicator; biosensor; pH indicator; phosphorylation indicator; messenger detector; transgenic animal; fluorescent timer; green fluorescent protein; GFP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New chromo and/or fluorescent-protein encoding nucleic acids, the proteins, being useful as labels in analyte detection assays, as selectable markers in recombinant DNA application, or as biosensors in
                                                                                                                                                                                                     Immunizing an individual against infection by vaccinia and/or variola
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                        virus comprises inducing an immune response against a polypeptide comprising peptide 74A or 165.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Lukyanov K;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Yanushevich Y, Fradkov AF,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ricordea florida green fluorescent protein (rfloGFP)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   66.7%; Score 6; DB 8; Lenc
100.0%; Pred. No. 2.1e+06;
ive 0; Mismatches 0;
                                                                (UYMA-) UNIV MASSACHUSETTS MEDICAL CENT.
                                                                                                                                                                                                                                                                                              Disclosure; SEQ ID NO 29; 32pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAO29584 standard; protein; 231 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             prokaryotic and eukaryotic cells
                                                                                                              Ennis FA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 3; Fig 14; 88pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               12-NOV-2002; 2002WO-US036499.
                   24-JAN-2003; 2003US-0442846P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          13-NOV-2001; 2001US-0332980P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (CLON-) CLONTECH LAB INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gurskaya NG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matz MV;
                                                                                                              Cruz J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 2003-482353/45.
                                                                                                                                                         WPI; 2004-594031/57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ricordea florida,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               N-PSDB; AAL60079
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 KVDDTF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 KVDDTF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WO2003042401-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 9 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Lukyanov S,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         27-AUG-2003
                                                                                                            Terajima M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 22-MAY-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             transgenic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Labas YA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAO29584;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 12
```

q

ð

AC SECOND SECOND

```
99US-0130891P.
99US-0131449P.
99US-0132048P.
99US-0132484P.
99US-0132484P.
                                                                                                                                            99US-0132486P.
99US-0132487P.
99US-0132863P.
                                                                                                                                                                                                 99US-0134218P.
99US-0134219P.
99US-0134221P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                     99US-0139119P.
99US-0139452P.
99US-0139453P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           99US-0139459P.
99US-0139460P.
99US-0139461P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    99US-0142055P.
99US-0142390P.
99US-0142803P.
99US-0142920P.
                                                                                                                                                                                                                                        99US-0134370P.
                                                                                                                                                                                    99US-0134256P.
                                                                                                                                                                                                                                                                  99US-0134941P.
                                                                                                                                                                                                                                                                                                        99US-0135629P.
                                                                                                                                                                                                                                                                                             99US-0135353P
                                                                                                                                                                                                                                                                                                                                   99US-0136392P
                                                                                                                                                                                                                                                                                                                                                                         99US-0137528P
                                                                                                                                                                                                                                                                                                                                                                                       99US-0137502P.
                                                                                                                                                                                                                                                                                                                                                                                                  99US-0137724P.
                                                                                                                                                                                                                                                                                                                                                                                                                              99US-0138540P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               99US-0139457P.
                                                                                                                                                                                                                                                                                                                                                 99US-0136782P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           99US-0139454P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               99US-0139463P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     99US-0139817P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         99US-0140695P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   99US-0139462P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99US-0139763P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                99US-0140353P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             99US-0140354P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  99US-0140991P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                99US-0141287P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99US-0142154P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           99US-0142977P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      99US-0143542P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    99US-0143624P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               99US-0144085P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99US-0144086P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     99US-0144331P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               99US-0144333P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 22-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               19-JUL-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        18-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             23-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          24-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   29-JUN-1999
             cc functional in a plant cell operably joined to a polymucleotide encoding a polymptopide associated with the property, and growing the transformed plant. The property is selected from improving plant cold tolerance, for manipulating growth rate in plant cells by modification of the cell cycle cathering plant disease, for improving plant drought tolerance, for providing increased resistance to plant disease, for galactomannan production, for production of improving plant tolerance, for improving plant tolerance to perheicides, for increasing the rate of improving plant tolerance to herbicides, for increasing the rate of college to pathogens or pests, for lighin production, for improving plant tolerance to extreme osmotic conditions, for improving plant tolerance to pathogens or pests, for yield improvement by modification of carbohydrate, introgen or phosphorus use and/or uptake and for yield improvement by providing improved plant growth and development under at least one stress condition. The polymucleotide may also encode a plant transcription factor. The methods and compositions of the present invention are useful in the field of biochemistry and composition are useful in the field of biochemistry and the present invention are useful in the field of biochemistry and compositions are plant plant tolerance to cold or heat, improved introgen flow, increasing plant tolerance to cold or heat, improved introgen cold malysis systems. The present sequence is one of the S34 plant protein are useful markers, computer-based storage and analysis systems. The present sequence is one of the S34 plant protein sequences of the invention. Note: The sequence data for this patent did composition to sequences of the invention. Note: The sequence data for this patent did composition of sequences of the invention. Note: The sequence of the printed s
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Protein identification; signal transduction pathway; metabolic pathway; hybridisation assay; genetic mapping; gene expression control; promoter; termination sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                 66.7%; Score 6; DB 8; Length 267; 100.0%; Pred. No. 31; or 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Arabidopsis thaliana protein fragment SEQ ID NO: 52697.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAG42271 standard; protein; 326 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              99US-0123180P-
99US-012548P-
99US-012578P-
99US-0126785P-
99US-0126785P-
99US-0127462P-
99US-012834P-
99US-0128714P-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         25-FEB-2000; 2000EP-00301439.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   18-OCT-2000 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local Similarity 100.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      21 DDTFYY 26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3 DDTFYY 8
                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 267 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EP1033405-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-APR-1999;
06-APR-1999;
08-APR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                05-MAR-1999;
09-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   25-FEB-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               06-SBP-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      25-MAR-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    29-MAR-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAG42271;
                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAG42271
        $$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               용
```

```
RR 19-JUL-1999) 9908-0144334 P. RR 19-JUL-1999) 9908-0144334 P. RR 20-JUL-1999) 9908-0144334 P. RR 20-JUL-1999) 9908-0144332 P. RR 21-JUL-1999) 9908-0144844 P. RR 21-JUL-1999) 9908-0144844 P. R. 21-JUL-1999) 9908-014508 P. R. 21-JUL-1999) 9908-0145145 P. R. 21-JUL-1999) 9908-0145149 P. R. 21-JUL-1999) 9908-015149 P. R. 21-JUL-1999) 9908-0
```

```
Protein identification; signal transduction pathway; metabolic pathway; hybridisation assay; genetic mapping; gene expression control; promoter; termination sequence.
                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                        ;
0
                                                                                                                                                                                                                     Length 326;
                                                                                                                                                                                                                                        0; Indels
                                                                                                                                                                                                                                                                                                                                                                 Arabidopsis thaliana protein fragment SEQ ID NO: 824.
                                                                                                                                                                                                                       DB 3;
                                                                                                                                                                                                                      Score 6; DB 3;
Pred. No. 37;
0; Mismatches
                                                                                                                                                                                                                                                                                                                 AAG04698 standard; protein; 329 AA
                                                                                                                                                                                                                      Similarity 100.0%; Po
99US-0159329P.
99US-0159331P.
99US-0159631P.
99US-0159631P.
99US-0159631P.
99US-0160741P.
99US-0160741P.
99US-016076P.
99US-016078P.
99US-016081AP.
99US-016081AP.
99US-016081AP.
99US-0160981P.
99US-016098P.
99US-016196P.
99US-0161406P.
99US-0161406P.
99US-016136P.
99US-016136P.
99US-016136P.
99US-016136P.
99US-016136P.
99US-016136P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            990S-0123180P
990S-0123548P
990S-0125548P
990S-0126785P
990S-0127462P
990S-0128714P
990S-0129845P
990S-0130870P
990S-0130891P
990S-0130810P
990S-0130810P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     99US-0121825P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     25-FEB-2000; 2000EP-00301439
                                                                                                                                                                                                                                                                                                                                                  17-OCT-2000 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                    Arabidopsis thaliana.
                                                                                                                                                                                                                                                                      168 DTFYYV 173
                                                                                                                                                                                                                              Local Similarity
                                                                                                                                                                                                                                                        4 DTFYYV 9
14-0CT-1999;
14-0CT-1999;
14-0CT-1999;
14-0CT-1999;
14-0CT-1999;
21-0CT-1999;
21-0CT-1999;
21-0CT-1999;
22-0CT-1999;
22-0CT-1999;
22-0CT-1999;
22-0CT-1999;
25-0CT-1999;
26-0CT-1999;
26-0CT-1999;
26-0CT-1999;
28-0CT-1999;
28-0CT-1999;
28-0CT-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             05-MAR-1999;
09-MAR-1999;
23-MAR-1999;
25-MAR-1999;
01-APR-1999;
06-APR-1999;
06-APR-1999;
16-APR-1999;
116-APR-1999;
23-APR-1999;
23-APR-1999;
23-APR-1999;
23-APR-1999;
23-APR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                     EP1033405-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                     06-SEP-2000.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      25-FEB-1999;
                                                                                                                                                                                                                                                                                                                                  AAG04698;
                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                Matches
 ઠ
                                                                                                                                                                                                                                                                    유
```

99US-0145088P. 99US-0145085P. 99US-0145087P. 99US-0145192P. 99US-0145182P. 99US-0145218P. 99US-0145218P.	9905-0146386P 9905-0146388P 9905-0147038P 9905-0147302P 9905-0147302P 9905-0147303P 9905-0147303P 9905-0147303P 9905-0147313P 9905-0147313P 9905-014731P 9905-014731P 9905-014931P 9905-014931P 9905-014931P 9905-014932P 9905-014932P 9905-014932P 9905-014932P 9905-014933P 9905-014933P 9905-014933P 9905-015066F 9905-015066P 9905-015066P	99US-015305P. 99US-0153070P. 99US-0154018P. 99US-0154018P. 99US-015403P. 99US-015403P. 99US-015403P. 99US-0155139P. 99US-015589P. 99US-015589P. 99US-015589P. 99US-015589P. 99US-015589P. 99US-015589P. 99US-015589P. 99US-0158331P. 99US-0159331P. 99US-0159331P.
	02-AUG-1999; 02-AUG-1999; 03-AUG-1999; 04-AUG-1999; 04-AUG-1999; 05-AUG-1999; 06-AUG-1999; 06-AUG-1999; 09-AUG-1999; 11-AUG-1999; 11-AUG-1999; 13-AUG-1999; 13-AUG-1999; 13-AUG-1999; 13-AUG-1999; 23-AUG-1999; 20-AUG-1999; 21-AUG-1999;	

99US-0132407P 99US-0132484P. 99US-0132486P. 99US-0132486P. 99US-0132487P. 99US-0132487P. 99US-0134256P. 99US-0134219P. 99US-0134219P. 99US-0134211P.	9908-0135629P 9008-0135629P 9008-0136232P 9008-013622P 9008-0137222P 9008-0137222P 9008-0137222P 9008-0137222P 9008-0137502P 9008-0137502P 9008-0137502P 9008-0137502P 9008-0139453P 9008-0139453P 9008-0139455P 9008-0139456P 9008-0139456P 9008-0139450P 9008-0139450P 9008-0139450P 9008-0139450P 9008-0139450P 9008-0139460P 9008-0139460P 9008-0139460P 9008-0139460P 9008-0139460P 9008-0139460P	990S-0140659E9- 99US-0140693EP- 99US-0141287E- 99US-0141287E- 99US-0141287E- 99US-0141287E- 99US-014205EP- 99US-014205EP- 99US-014205EP- 99US-014204P- 99US-014408EP- 99US-014408EP- 99US-014408EP- 99US-014433EP-
APR 1999 MAY 1999 MAY 1999 MAY 1999 MAY 1999 MAY 1999 MAY 1999 MAY 1999	21-MAY-1999; 24-MAY-1999; 27-MAY-1999; 27-MAY-1999; 28-MAY-1999; 01-JUN-1999; 04-JUN-1999; 07-JUN-1999; 10-JUN-1999; 10-JUN-1999; 16-JUN-1999; 16-JUN-1999; 18-JUN-1999; 18-JUN-1999; 18-JUN-1999; 18-JUN-1999; 18-JUN-1999; 18-JUN-1999; 18-JUN-1999; 18-JUN-1999; 18-JUN-1999; 18-JUN-1999; 18-JUN-1999; 18-JUN-1999; 18-JUN-1999; 18-JUN-1999; 18-JUN-1999; 18-JUN-1999; 18-JUN-1999; 23-JUN-1999; 23-JUN-1999;	70X-1999

```
undrated acid, (4) an antibody capable of specifically binding antisense nucleic acid, (4) an antibody capable of specifically binding antisense nucleic acid, (4) an antibody capable of specifically binding call antisense nucleic acid, (4) an antibody capable of specifically binding crep properties, (5) funtibiting callular proliferation or the activity of a gene in an operon required for proliferation, or that has an activity against a biological pathway required for proliferation, or that inhibits cellular proliferation; (8) identifying a gene required for cellular proliferation or the biological pathway or required for proliferation, or that inhibits proliferation of an organism acts; (9) manufacturing an antibiotic; (10) profiling a compound a activity; (11) a culture compound that inhibits proliferation of an organism acts; (9) manufacturing an antibiotic; (10) profiling a compound a activity; (11) a culture compound that inhibits the extent compound a city overexpressed or underexpressed; (12) determining the extent compound; or the strains is present in a culture or collection of the which each of the strains is present in a culture or collection of conditieration of an organism. The antisense nucleic acids required corporated for proliferation in cells other than S. s. typhimurium, corporated for proliferation in cells other than S. typhimurium, corporated for proliferation in cells other than S. typhimurium, corporated the torm part of the printed specification, but was obtained to he extend the printed specification, but was obtained to the print of the printed specification, but was obtained to the printed specification of the printed specification, but was obtained to the printed specification, but was obtained to the printed specification, but was obtained to the printed specification of the printed specification of the printed specification, but was obtained to the printed specification of the printed specification of the printed specification, but was obtained to the printed specification of the 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New antisense nucleic acids, useful for identifying proteins or screening
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Antisense; prokaryotic essential gene; cell proliferation; drug design.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Zyskind JW;
Xu HH;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 331;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Äξ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ohlsen |
Forsyth |
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Protein encoded by Prokaryotic essential gene #17427.
   (2) a host cell containing the vector;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Haselbeck R,
Yamamoto R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        66.7%; Score 6; DB 6;
100.0%; Pred. No. 37;
:ive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                             ftp.wipo.int/pub/published_pct_sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ABU31900 standard; protein; 331 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Malone C,
Carr GJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    06-SEP-2001; 2001US-00948993.
25-0CT-22001; 2001US-0342923P.
08-FEB-2002; 2002US-00072851.
06-MAR-2002; 2002US-0362699P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     21-MAR-2002; 2002WO-US009107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      21-MAR-2001; 2001US-00815242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         19-JUN-2003 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (ELIT-) ELITRA PHARM INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Klebsiella pneumoniae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Zamudio C,
Trawick JD,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 2003-029926/02.
N-PSDB; ACA35770.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DTFYYV 184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sest Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4 DTFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 331 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WO200277183-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      03-OCT-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ABU31900;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Wang L,
Wall D,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 17
     88999999999999999999999999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New antisense nucleic acids, useful for identifying proteins or screening for homologous nucleic acids required for cellular proliferation to isolate candidate molecules for rational drug discovery programs.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The invention relates to an isolated nucleic acid comprising any one of the 6213 antisense sequences given in the specification where expression of the nucleic acid inhibits proliferation of a cell. Also included are:
(1) a vector comprising a promoter operably linked to the nucleic acid encoding a polypeptide whose expression is inhibited by the antisense
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Antisense; prokaryotic essential gene; cell proliferation; drug design.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Zyskind JW;
Xu HH;
                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                               ;
0
                                                                                                                                                                                                                                                                                                              Length 329;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Äξ
                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ohlsen |
Forsyth |
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Protein encoded by Prokaryotic essential gene #13979
                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                              DB 3;
                                                                                                                                                                                                                                                                                                 66.7%; Scor.
100.0%; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Haselbeck R,
Yamamoto R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim 25; SEQ ID NO 56376; 1766pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ABU28452 standard; protein; 331 AA.
             99US-0160768P
99US-0160710P
99US-01608H15P
99US-01608H1P
99US-016098HP
99US-0161404P
99US-0161406P
99US-0161406P
99US-0161159P
99US-0161159P
99US-0161159P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Malone C,
Carr GJ,
                                                                                                                                                                                                                                           99US-0161992P.
99US-0161993P.
99US-0162142P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    21-MAR-2001; 2001US-00815242.
06-SEP-2001; 2001US-00946993.
25-OCT-2001; 2001US-0342923P.
08-FEB-2002; 2002US-00072851.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     21-MAR-2002; 2002WO-US009107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    06-MAR-2002; 2002US-0362699P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
                                                                                                                                                                                                                                                                                                                                               6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (ELIT-) ELITRA PHARM INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Enterobacter cloacae.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Zamudio C,
Trawick JD,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 2003-029926/02.
N-PSDB; ACA32322.
                                                                                                                                                                                                                                                                                                                                                                                                          171 DTFYYV 176
                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
Matches 6; Conserv
                                                                                                                                                                                                                                                                                                                                                                           4 DTFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WO200277183-A2
                                                            21-OCT-1999;
22-OCT-1999;
22-OCT-1999;
                                                                                                                                                               1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          19-JUN-2003
                                                                                                            22-OCT-1999
                                                                                                                                                                              26-OCT-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       03-OCT-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ABU28452;
                                                                                                                                            25-0CT-19
                                                                                                                              25-OCT-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     'n,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Wang |
                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                          셤
```

Gaps

; 0

Osborne M;

```
Breton GL,
                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ABU33347
        T X E E X F F X S X C C C C C C C X S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                           the invention trainers to an isolated mucielc acid compitating any one of the fall antisense sequences given in the fall antisense sequences given in the specification where expression of the nucleic acid inhibits proliferation of a cell. Also included are:

CG of the nucleic acid inhibits proliferation of a cell. Also included are:

CG encoding a polypeptide whose expression is inhibited by the antisense nucleic acid; (4) an antibody capable of specifically binding the polypeptide; (5) producing the polypeptide; (6) inhibiting callular cantisense nucleic acid; (4) an antibody capable of specifically binding the polypeptide; (5) producing the polypeptide; (6) inhibiting callular cc proliferation or the activity of a gene in an operon required for proliferation, (7) identifying a compound that influences the activity of the gene product or that has an activity against a biological pathway required for that has an activity against a biological pathway required for proliferation, or that inhibits proliferation or the biological pathway in which a proliferation-required gene or its gene product lies or a gene on which the test compound that inhibits proliferation of an organism acts; (9) manufacturing an antibiotic; (10) profilling a compound; a activity; (11) a culture comprising strains in which the extent or compound; a activity; (11) a culture comprising strains in which the captence or collection of the strains; or (13) identifying the target of a compound that inhibits the continual collection of an organism. The antisense nucleic acids are useful for proliferation in cells other than 8. aureus, S. typhimurium, CC identifying proteins or screening for homologous nucleic acids activity or continual activity proliferation in cells other than 8. aureus, S. typhimurium, CC the target prokaryotic essential genes. Note: The sequence data for this compound in electronic formed directly from MIPO at the printed specification, but was obtained to the printed for proliferation and sequence is encoded by one of the prin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
        t
homologous nucleic acids required for cellular proliferation
                                                                                              invention relates to an isolated nucleic acid comprising any
                    isolate candidate molecules for rational drug discovery programs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Recombinant expression vector; transcription regulatory element; Klebsiella pneumoniae protein; antibacterial; Vaccine.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 331;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 66.7%; Score 6; DB 6;
100.0%; Pred. No. 37;
ive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Klebsiella pneumoniae polypeptide seqid 10751
                                                          Claim 25; SEQ ID NO 59824; 1766pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ftp.wipo.int/pub/published pct sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ABO64234 standard, protein, 382 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (GENO-) GENOME THERAPEUTICS CORP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      27-JAN-2000; 2000US-00489039
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           99US-0117747P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                29-JUL-2004 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity luv...
6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Klebsiella pneumoniae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      179 DTFYYV 184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4 DTFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 331 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           29-JAN-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US6610836-B1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                26-AUG-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ABO64234;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 18
    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
```

```
ö
                                                                                                                                                   The invention describes a new isolated nucleic acid encoding a Klebsiella pneumoniae polypeptide. Also described are: a recombinant expression vector comprising the nucleic acid, operably linked to a transcription regulatory element, and a cell comprising the recombinant expression vector. The nucleic acid is useful for preparing a vaccine composition against Klebsiella pneumoniae. This is the amino acid sequence of a Klebsiella pneumoniae polypeptide of the invention
                                                       New nucleic acid encoding a Klebsiella pneumoniae polypeptide, useful for preparing a vaccine composition against Klebsiella pneumoniae.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New antisense nucleic acids, useful for identifying proteins or screening for homologous nucleic acids required for cellular proliferation to isolate candidate molecules for rational drug discovery programs.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The invention relates to an isolated nucleic acid comprising any one of the 6213 antisense sequences given in the specification where expression of the nucleic acid inhibits proliferation of a cell. Also included are: (1) a vector comprising a promoter operably linked to the nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Antisense; prokaryotic essential gene; cell proliferation; drug design.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Zyskind JW;
Xu HH;
                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                               Length 382;
                                                                                                                                                                                                                                                                                                                                                                                         0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Haselbeck R, Ohlsen KL,
Yamamoto R, Forsyth RA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Protein encoded by Prokaryotic essential gene #18874.
                                                                                                                                                                                                                                                                                                                                                   DB 7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Haselbeck R,
                                                                                                               Disclosure; SEQ ID NO 10751; 932pp; English.
                                                                                                                                                                                                                                                                                                                                               66.7%; Score 6; DB 7;
100.0%; Pred. No. 43;
iive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 25; SEQ ID NO 61271; 1766pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ABU33347 standard; protein; 399 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Malone C,
Carr GJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  06-SEP-2001; 2001US-00948993.
25-OCT-2001; 2001US-0342923P.
08-PEB-2002; 2002US-00072851.
06-MAR-2002; 2002US-0362699P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          21-MAR-2002; 2002WO-US009107.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                21-MAR-2001; 2001US-00815242.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           19-JUN-2003 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                         6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (ELIT-) ELITRA PHARM INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Legionella pneumophila
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Zamudio C,
Trawick JD,
WPI; 2003-895346/82.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 2003-029926/02
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 230 DTFYYV 235
                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                             4 DTFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  N-PSDB; ACA37217.
                     N-PSDB; ACH97785
                                                                                                                                                                                                                                                                                                             Sequence 382 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WO200277183-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    03-OCT-2002.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ABU33347;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Wang L,
Wall D,
```

```
encoding a polypeptide whose expression is inhibited by the antisense nucleic acid; (2) a host cell containing the vector; (3) an isolated opolypeptide or its fragment whose expression is inhibited by the antisense nucleic acid; (4) an antibody capable of specifically binding the polypeptide; (5) producing the polypeptide; (6) inhibiting callular proliferation or the activity of a gene in an operon required for proliferation, (7) identifying a compound that influences the activity of the gene product or that has an activity against a biological pathway contained for proliferation, or that inhibits cellular proliferation; (8) identifying a gene required for cellular proliferation or the biological pathway in which a proliferation-required gene or its gene product lies or a gene on which the test compound that inhibits proliferation of an compound's activity; (11) a culture comprising strains in which the gene product is overexpressed or underexpressed; (12) determining the extent or which each of the strains is present in a culture or collection of strains; or (13) identifying the target of a compound that inhibits the culture or collection of strains; or (13) identifying the target of a compound that inhibits or collection of strains; or (13) identifying for homologous nucleic acids required for identifying proteins or screening for homologous nucleic acids required for callular proliferation or how antisense modeleic acids required for profileration of an organism. The antisense modeleic acids required for callular proliferation of an organism candidate molecules for rational
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                 drug discovery programs, or for screening homologous nucleic acids required for proliferation in cells other than S. aureus, S. typhimurium, K. pneumoniae or P. aeruginosa. The present sequence is encoded by one of the target prokaryotic essential genes. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Glaser P;
Vandenesch F;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ο,
P,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 6; Length 399;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Cazalet C.
A, Kunst F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ..
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Etienne J, Ma L, Ca
Zidane N, Magnier A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (INSP ) INST PASTEUR.
(INRM ) INSERM INST NAT SANTE & RECH MEDICALE.
(INRY-) UNIV LYON 1 BERNARD CLAUDE.
(CNRS ) CNRS CENT NAT RECH SCI.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           detection; infection; Antibacterial; Vaccine.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     66.7%; Score 6; DB 6
100.0%; Pred. No. 44;
tive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ftp.wipo.int/pub/published_pct_sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     L. pneumophila protein SEQ ID NO 3957.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AEB39625 standard; protein; 399 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         23-SEP-2004; 2004WO-IB003578.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 21-NOV-2003; 2003FR-00013687.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Tichit M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Bouchier C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Legionella pneumophila.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 2005-388305/40.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          186 VDÖTFY 191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 399 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WO2005049642-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2 VDDTFY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             08-SEP-2005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 02-JUN-2005.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Rusniok C,
Jarraud S;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Buchrieser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AEB39625;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 20
          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ð
```

New genome of Legionella pneumophila Paris strain and derived

```
ö
                                                                                                            from Legionella pneumophila Paris strain. (I), and their related as gequences or fragments, are useful as primers and probes for detection and amplification, including differentiation between the Paris and Philadelphia strains of Legionella pneumophila and to prepare recombinant (hybrid) polypeptides (II). (II) are also useful for preparation of specific antibodies (Ab), also used for detection/identification of Legionella, and some (I), specifically those involved in synthesis of surface proteins, are targets for identification of inhibitors. (II), or eccorns that contain (I), are useful as vaccines and immunogenic compositions, for treatment and prevention of infections by L. present squence represents the amino acid sequence of a
                                                                                                 The invention relates to an isolated or purified nucleotide sequences (I)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Also disclosed are the nucleic acid molecules encoding the proteins and antibodies that specifically bind to the proteins. The composition comprising the protein, nucleic acid or antibody is useful for the manufacture of a medicament for treating or preventing N. gonorrhoeae infection, this may be in the form of a vaccine or gene therapy. Sequences given in records ABP76736-ABP81046 represent nucleic acid molecules of the invention
polypeptides, useful for detection or identification of the strain and for treatment and prevention of infections.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           protein from Neisseria gonorrheae, useful for the manufacture of a cament for treating or preventing N. gonorrheae infection.
                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The present invention relates to proteins from Neisseria gonorrhoeae
                                                                                                                                                                                                                                                                                                                                                                                                                           ;
0
                                                                                                                                                                                                                                                                                                                                                                                   Length 399;
                                                                                                                                                                                                                                                                                                                                                                                                                         0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Antibacterial; infection; vaccine; gene therapy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                N. gonorrhoeae amino acid sequence SEQ ID 2702.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Monaci E;
                                                                                                                                                                                                                                                                                                                                                                                   66.7%; Score 6; DB 9;
100.0%; Pred. No. 44;
ive 0; Mismatches
                                                             Claim 3; SEQ ID NO 3957; 660pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Disclosure; Page 385; 815pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Masignani V,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ABP78086 standard; protein; 400 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            12-FEB-2002; 2002WO-IB002069.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              12-FEB-2001; 2001GB-00003424
                                                                                                                                                                                                                                                                                                                                                                   Ouery Match
Best Local Similarity 100...
6, Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           07-MAR-2003 (first entry)

    L. pneumophila protein.

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Fontana MR, Pizza M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Neisseria gonorrhoeae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2003-058415/05.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VDDTFY 191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (CHIR-) CHIRON SPA
                                                                                                                                                                                                                                                                                                                                                                                                                                                            7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       N-PSDB; ABZ39056
                                                                                                                                                                                                                                                                                                                                                    Sequence 399 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                            2 VDDTFY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WO200279243-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         10-OCT-2002.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ABP78086;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ABP78086
           ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
```

The antisense nucleic acids are useful

```
proliferation of an organism.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ABU37892
           888888888888888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                        ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         X S X S X S X S X S X S S X S S X S S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S X S 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        The inventor transfer to an interact acta compitating any one or the following antisense asquences given in the specification where expression of the nucleic acid inhibits proliferation of a cell. Also included are:

CC (1) a vector comprising a promoter operably linked to the nucleic acid encoding a polypeptide whose expression is inhibited by the antisense nucleic acid; (2) a host cell containing the vector; (3) an isolated of polypeptide or its fragment whose expression is inhibited by the antisense nucleic acid; (4) an antibody capable of specifically binding the polypeptide of the polypeptide; (5) producing the polypeptide; (6) inhibiting cellular or the activity of a gene in an operon required for proliferation or the activity of a gainst a biological pathway or the gene product or that has an activity against a biological pathway or equired for that has an activity against a biological pathway or equired for cellular proliferation or the biological pathway in which a proliferation-required gene or its gene product lies or a gene on which the test compound that inhibits proliferation of an compound's activity; (1) a computed serior is overexpressed or underexpressed; (12) determining the extent or product is overexpressed or underexpressed; (12) determining the extent or to which each of the strains is present in a culture or collection of strains; or (13) identifying the target of a compound that inhibits the
                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New antisense nucleic acids, useful for identifying proteins or screening for homologous nucleic acids required for cellular proliferation to isolate candidate molecules for rational drug discovery programs.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Antisense; prokaryotic essential gene; cell proliferation; drug design.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          invention relates to an isolated nucleic acid comprising any one of
                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Zyskind JW;
Xu HH;
                                                                                                ..
0
                                                 Length 400;
                                                                                            0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ohlsen KL,
Forsyth RA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Protein encoded by Prokaryotic essential gene #22863.
                                                   DB 6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Haselbeck R,
Yamamoto R,
                                          66.7%; Score 6; DB 6.
100.0%; Pred. No. 44;
iive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 25; SEQ ID NO 65260; 1766pp; English.
                                                                                                                                                                                                                                                                                           ABU37336 standard; protein; 400 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Malone C,
Carr GJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; 2001US-00815242.
; 2001US-00948993.
; 2001US-0342923P.
; 2002US-00072851.
; 2002US-0362699P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      21-MAR-2002; 2002WO-US009107
                                                                                                                                                                                                                                                                                                                                                                                    (revised)
(first entry)
                                     Query Match
Best Local Similarity 100.
Matches 6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (ELIT-) ELITRA PHARM INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Neisseria gonorrhoeae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Zamudio C,
Trawick JD,
                                                                                                                                                                            186 VDĎŤPY 191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 2003-029926/02.
                                                                                                                                    2 VDDTFY 7
Sequence 400 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           N-PSDB; ACA41206.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WO200277183-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      06-SEP-2001;
25-OCT-2001;
08-FEB-2002;
                                                                                                                                                                                                                                                                                                                                                                                    23-OCT-2003
19-JUN-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   21-MAR-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           06-MAR-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          03-OCT-2002
                                                                                                                                                                                                                                                                                                                                       ABU37336;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Wang L,
Wall D,
                                                                                                                                                                                                                                              RESULT 22
ABU37336
g
                                                                                                                                    ò
                                                                                                                                                                            쉽
```

```
ö
identifying proteins or screening for homologous nucleic acids required dro cellular proliferation to isolate candidate molecules for rational droy discovery programs, or for screening homologous nucleic acids required for proliferation in cells other than S. aureus, S. typhimurium, K. pneumoniae or P. aeruginosa. The present sequence is encoded by one of the target prokaryotic essential genes. Note: The sequence data for this patent did not form part of the printed specification, but was obtained it electronic format directly from WIPO at first publypublished_pct_sequences. (Updated on 23-OCT-2003 to standardise OS field)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New antisense nucleic acids, useful for identifying proteins or screening for homologous nucleic acids required for cellular proliferation to isolate candidate molecules for rational drug discovery programs.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The invention relates to an isolated nucleic acid comprising any one of the 6213 antisense sequences given in the specification where expression of the nucleic acid inhibits proliferation of a cell. Also included are:
(1) a vector comprising a promoter operably linked to the nucleic acid encoding a polypeptide whose expression is inhibited by the antisense nucleic acid; (2) a host cell containing the vector; (3) an isolated polypeptide or its fragment whose expression is inhibited by the antisense antisense nucleic acid; (4) an antibody capable of specifically binding the polypeptide; (5) producing the polypeptide; (6) inhibiting cellular proliferation or the activity of a gene in an operon required for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Antisense; prokaryotic essential gene; cell proliferation; drug design.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Zyskind JW;
Xu HH;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                             Length 400;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0, Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ohlsen KL,
Forsyth RA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Protein encoded by Prokaryotic essential gene #23419.
                                                                                                                                                                                                                                                                                                                                                                                                             DB 6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Haselbeck R,
Yamamoto R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                 44;
                                                                                                                                                                                                                                                                                                                                                                                                       66.7%; Score 6; DB 6
100.0%; Pred. No. 44;
ive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 25; SEQ ID NO 65816; 1766pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ABU37892 standard; protein; 400 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Malone C,
Carr GJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                21-MAR-2001; 2001US-00815242.
06-SEP-2001; 2001US-00948993.
25-OCT-2001; 2001US-0342923P.
08-FEB-2002; 2002US-0362699P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               21-MAR-2002; 2002WO-US009107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (ELIT-) ELITRA PHARM INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Neisseria meningitidis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Zamudio C,
Trawick JD,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 2003-029926/02.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         186 VDDTFY 191
                                                                                                                                                                                                                                                                                                                                                                                                                                       Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2 VDDTFY 7
                                                                                                                                                                                                                                                                                                                                                Sequence 400 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       N-PSDB; ACA41762
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WO200277183-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  19-JUN-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  03-OCT-2002.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ABU37892;
                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Wang L,
Wall D,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
```

```
the gene product or that has an activity against a biological pathway required for proliferation, or that inhibits callular proliferation; (8) identifying a gene required for cellular proliferation or the biological pathway in which a proliferation required gene or its gene product lies or a gene on which the test compound that inhibits proliferation of an organism actes; (9) manufacturing an antibiotic; (10) profiling a compound, a activity; (11) a culture comprising strains in which the gene product is overexpressed or underexpressed; (12) determining the extent product is overexpressed or underexpressed; (12) determining the extent or collection of a trains; or (13) identifying the target of a compound that inhibits the proliferation of an organism. The antisense nucleic acids are useful for identifying proteins or screening for homologous nucleic acids required for cellular proliferation to isolate candidate molecules for rational drug discovery programs, or for screening homologous nucleic acids contains a proliferation in cells other than Staurens, Staybimmrium, contains and services and services or surveys.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        K. pneumoniae or P. aeruginosa. The present sequence is encoded by one of the target prokaryotic essential genes. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at
proliferation; (7) identifying a compound that influences the activity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Glaser P;
Vandenesch F;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New genome of Legionella pneumophila Paris strain and derived polypeptides, useful for detection or identification of the strain and for treatment and prevention of infections.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 400;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Cazalet C,
, Kunst F,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Etienne J, Ma L, Ca
Zidane N, Magnier A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   INSERM INST NAT SANTE & RECH MEDICALE.
UNIV LYON 1 BERNARD CLAUDE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  detection; infection; Antibacterial; Vaccine.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 66.7%; Score 6; DB 6
Best Local Similarity 100.0%; Pred. No. 44;
Matches 6; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ftp.wipo.int/pub/published_pct_sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 3; SEQ ID NO 535; 660pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 L. pneumophila protein SEQ ID NO 535.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AEB36203 standard; protein; 405 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (UYLY-) UNIV LYON 1 BERNARD CL
(CNRS ) CNRS CENT NAT RECH SCI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           23-SEP-2004; 2004WO-IB003578.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  21-NOV-2003; 2003FR-00013687.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Tichit M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Bouchier C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Legionella pneumophila.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (INSP ) INST PASTEUR.
(INRM ) INSERM INST NI
(UYLY-) UNIV LYON 1 BE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 2605-388305/40.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 186 VDDTFY 191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2 VDDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 400 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WO2005049642-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ပဲ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             08-SEP-2005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              02-JUN-2005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Buchrieser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Rusniok C,
Jarraud S;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AEB36203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Rusniok
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AEB36203
   88888888888888888888888888888888888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CXX SXX FILL X B B B B X K B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B X B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ð
```

The invention relates to an isolated or purified nucleotide sequences (I)

```
ö
from Legionella pneumophila Paris strain. (I), and their related as equences or fragments, are useful as primers and probes for detection and amplification, including differentiation between the Paris and Philadelphia strains of Legionella pneumophila and to prepare recombinant (hybrid) polypeptides (II). (II) are also useful for preparation of Legionella, and some (I), specifically those involved in synthesis of surface proteins, are targets for identification of inhibitors. (II), ovectors that contain (I), are useful as vaccines and immunogenic compositions, for treatment and prevention of infections by L. pneumophila. The present squence represents the amino acid sequence of a L. pneumophila protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 antisense nucleic acids, useful for identifying proteins or screening homologous nucleic acids required for cellular proliferation to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  the 6213 antisense sequences given in the specification where expression of the nucleic acid inhibits proliferation of a cell. Also included are: (1) a vector comprising a promoter operably linked to the nucleic acid encoding a polypeptide whose expression is inhibited by the antisense nucleic acid; (2) a host cell containing the vector; (3) an isolated antisense antisense nucleic acid; (4) an antibody capable of specifically binding the polypeptide; (5) producing the polypeptide; (6) inhibiting cellular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Antisense; prokaryotic essential gene; cell proliferation; drug design.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Zyskind JW;
Xu HH;
                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   for homologous nucleic acids required for cellular proliferation isolate candidate molecules for rational drug discovery programs.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     invention relates to an isolated nucleic acid comprising any
                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                               Length 405;
                                                                                                                                                                                                                                                                                                  0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ohlsen KL,
Forsyth RA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Protein encoded by Prokaryotic essential gene #26937.
                                                                                                                                                                                                                                                               DB 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Haselbeck R,
Yamamoto R,
                                                                                                                                                                                                                                                               66.7%; Score 6; DB 9; 100.0%; Pred. No. 45; iive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 25; SEQ ID NO 69334; 1766pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                         ABU41410 standard; protein; 409 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              falone C,
Carr GJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     06-SEP-2001; 2001US-00948993.
25-OCT-2001; 2001US-034223P.
08-FEB-2002; 2002US-0072851.
06-MAR-2002; 2002US-0362899P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     21-MAR-2002; 2002WO-US009107.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       21-MAR-2001; 2001US-00815242.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Malone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              19-JUN-2003 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (ELIT-) ELITRA PHARM INC.
                                                                                                                                                                                                                                                                                                  6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pseudomonas syringae.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Zamudio C,
Trawick JD,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 2003-029926/02.
                                                                                                                                                                                                                                                                                                                                                                     192 VDDTFY 197
                                                                                                                                                                                                                                                                                  Best Local Similarity
                                                                                                                                                                                                                                                                                                                                   7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  N-PSDB; ACA45280.
                                                                                                                                                                                                                                Sequence 405 AA;
                                                                                                                                                                                                                                                                                                                                     2 VDDTFY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WO200277183-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     03-OCT-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ABU41410;
                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ų,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Wang 1
Wall 1
                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    New
                                                                                                                                                                                                                                                                                                                                                                                                                                         ABU41410
     8888888888888888
                                                                                                                                                                                                                                                                                                                                      ð
                                                                                                                                                                                                                                                                                                                                                                   d
```

WPI; 2004-180133/17.

```
proliferation or the activity of a gene in an operon required for proliferation; (7) identifying a compound that influences the activity of the gene product or that has an activity against a biological pathway required for proliferation, or that inhibits cellular proliferation; (8) identifying a gene required for cellular proliferation or the biological pathway in which a proliferation-required gene or the product lies or a gene on which the test compound that inhibits proliferation of an compound s activity; (11) a culture comprising strains in which the gene or product is overexpressed or underexpressed; (12) determining the extent compound s activity; (11) a culture comprising strains in which the gene product is overexpressed or underexpressed; (12) determining the extent compound is overexpressed or underexpressed; (12) determining the extent compounds; or (13) identifying the targes of a compound that inhibits the compound that inhibits the proliferation of an organism. The autisense nucleic acids required for proliferation to isolate candidate molecules for rational cauged strains in cells other than S. aureus, S. typhimurium, K. Dienemioniae or P. aeruginsa. The present sequence is encoded by one of the target prokaryotic essential genes. Note: The sequence data for this patent did not form part of the printed specification, but was obtained for the universe of the termine of the printed specification, but was obtained for the termine of the te
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 plant protectant; plant growth regulant; gene therapy; plant; recombinant DNA construct; physical array; plant breeding marker; cold tolerance; heat tolerance; drought tolerance; herbicide tolerance; extreme osmotic condition; pathogen tolerance; pest tolerance; growth rate; cell cycle pathway; disease resistance; galactomannan production; lignin production; plant growth regulator; yield; plant growth; plant development; seed oil; protein yield;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Cao Y;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 409;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Tabaska JE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Plant full length insert polypeptide segid 72338.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                66.7%; Score 6; DB 6;
100.0%; Pred. No. 45;
ive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Screen SE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ftp.wipo.int/pub/published_pct_sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ADY24554 standard; protein; 479 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  28-APR-2003; 2003US-00425114.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Kovalic DK,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              99US-00304517
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 05-NOV-2001; 2001US-00985678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          21-APR-2005 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local Similarity 100.
1es 6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             υ
አ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ZHOU Y.
KOVALIC D K.
SCREEN S E.
TABASKA J E.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    189 VDDTFY 194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2 VDDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 409 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US2004034888-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Zhou Y,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 protein content
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LIU J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CAO Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          06-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Unidentified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     19-FEB-2004.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ADY24554;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (TABA/)
(CAOY/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (rin1)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (KOVA/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ZHOU/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Liu J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
           ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
```

```
The invention describes a recombinant DNA construct comprising a polynucleotide consisting of a sequence encoding an anino acid sequence available in electronic form from the US patent office at evallable in electronic form from the US patent office at the sequence.html?bocID:2004034088. The polynucleotide of the invention are also useful in physical arrays of molecules and as plant breeding markers. The recombinant DNA construct is useful for improving plant tolerance to cold, heat, drought, herbicides, extreme osmotic conditions, pathogens or pests, for manipulating growth rate in plant cells by modification of the cell cycle pathway, for conferring increased resistance to plant disease, for producing galactomannan, increased resistance to plant disease, for increaseing the rate of homologous recombination in plants, for improven plant growth and development under at least one photosynthesis or carbohydrate, nitrogen or phosphorus use and/or uptake or by providing improved plant growth and development under at least one tress condition or for modifying seed oil or protein yield and/or content. This is the amino acid sequence of a plant full length insert increase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                               New recombinant DNA construct, useful for improving plant tolerance to cold, heat, drought, herbicides, extreme osmotic conditions, pathogens or pests, for conferring increased resistance to plant disease, or for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Protein identification; signal transduction pathway; metabolic pathway; hybridisation assay; genetic mapping; gene expression control; promoter; termination sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 479;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Arabidopsis thaliana protein fragment SEQ ID NO: 823.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    66.7%; Score 6; DB 8;
100.0%; Pred. No. 52;
iive 0; Mismatches
                                                                                                                Claim 1; SEQ ID NO 72338; 15pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAG04697 standard; protein; 485 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       99US-012180P.
99US-0123180P.
99US-0125784P.
99US-0125784P.
99US-0126764P.
99US-0126762P.
99US-0128714P.
99US-0128714P.
99US-0129455P.
99US-0129455P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        25-FEB-2000; 2000EP-00301439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity 100.v.
6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Arabidopsis thaliana.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    321 DTFYYV 326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4 DTFYYV 9
                                                                                 improving yield.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 479 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       25-FEB-1999;
05-MAR-1999;
09-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       17-0CT-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EP1033405-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         23-MAR-1999;
25-MAR-1999;
29-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         06-SEP-2000.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-APR-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            08-APR-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          16-APR-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           19-APR-1999,
21-APR-1999,
                                                                                                                                                                                                                                                                                                                                                                                                                                    invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAG04697;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAG04697
ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a
```

***************************************	* * * * * * * * * * * * * * * * * * * *
	1111111111
\text{S166}	- S06 - S06 - S06 - S06 - S06 - S06 - S06
10000000000000000000000000000000000000	110999; 110999; 110999; 110999; 110999;
23 - APR - 12 23 - APR - 12 23 - APR - 12 24 - APR - 12 25 - APR - 12 26 - APR - 12 26 - APR - 12 27 - APR - 12 28 - APR - 12 29 - APR - 12 20 - APR - 12 21 - APR - 12 22 - APR - 12 23 - APR - 12 24 - APR - 12 25 - APR - 12 26 - APR - 12 27 - APR - 12 28 - APR - 12 29 - APR - 12 20 - APR - 12 21 - APR - 12 22 - APR - 12 23 - APR - 12 24 - APR - 12 25 - APR - 12 26 - APR - 12 27 - APR - 12 28 - APR - 12 28 - APR - 12 29 - APR - 12 20 - APR - 12 21 - APR - 12 22 - APR - 12 23 - APR - 12 24 - APR - 12 25 - APR - 12 26 - APR - 12 27 - APR - 12 28 - APR - 12 28 - APR - 12 29 - APR - 12 29 - APR - 12 20 - APR - 12 20 - APR - 12 21 - APR - 12 22 - APR - 12 23 - APR - 12 24 - APR - 12 25 - APR - 12 26 - APR - 12 27 - APR - 12 28 - APR - 12 28 - APR - 12 29 - APR - 12 20 - APR - 12 20 - APR - 12 21 - APR - 12 22 - APR - 12 23 - APR - 12 24 - APR - 12 25 - APR - 12 26 - APR - 12 27 - APR - 12 28 - APR - 12 29 - APR - 12 20 - APR - 12 21 - APR - 12 22 - APR - 12 23 - APR - 12 24 - APR - 12 25 - APR - 12 26 - APR - 12 27 - APR - 12 28 - APR - 12 29 - APR - 12 20 - APR - 12 21 - APR - 12 21 - APR - 12 22 - APR - 12 23 - APR - 12 24 - APR - 12 26 - APR - 12 27 - APR - 12 28 - APR - 12 29 - APR - 12 20 - APR - 12 20 - APR - 12 21 - APR - 12 21 - APR - 12 22 - APR - 12 23 - APR - 12 24 - APR - 12 25 - APR - 12 26 - APR - 12 27 - APR - 12 28 - APR - 12 29 - APR - 12 20 - APR - 12 20 - APR - 12 21 - APR - 12 21 - APR - 12 22 - APR - 12 23 - APR - 12 24 - APR - 12 25 - APR - 12 26 - APR - 12 27 - APR - 12 28 - APR - 12 28 - APR - 12 29 - APR - 12 20 - APR - 12 20 - APR - 12 21 - APR - 12 22 - APR - 12 23 - APR - 12 24 - APR - 12 25 - APR - 12 26 - APR - 12 27 - APR - 12 28 - APR - 12 28 - APR - 12 29 - APR - 12 20 - APR - 12 20 - APR - 12 21 - APR - 12 21 - APR - 12 22 - APR - 12 23 - APR - 12 24 - APR - 12 25 - APR - 12 26 - APR - 12 27 - A	15-70 16-70 16-70 19-70 19-70 19-70 19-70 19-70 19-70 19-70 19-70 19-70 19-70 19-70 19-70 19-70
** ** ** ** ** ** ** ** ** ** ** ** **	# # # # # # # # # # # # # # # # # # #

990S-0144632P.
990S-0144884P.
990S-0145084P.
990S-0145088P.
990S-0145088P.
990S-0145088P.
990S-0145089P.
990S-0145089P.
990S-0145089P.
990S-0145089P.
990S-0145089P.
990S-0145089P.
990S-0145038P.
990S-0151030P.
990S-0151030P.
990S-0151030P.
990S-0151030P.
990S-0151030P.
990S-0151030P.
990S-0151030P.
990S-0155039P.
990S-0155039P.
990S-0155039P.
990S-0155039P.
990S-0155039P.

20-JUL-1999; 20-JUL-1999; 21-JUL-1999; 21-JUL-1999; 22-JUL-1999; 22-JUL-1999; 22-JUL-1999; 22-JUL-1999; 22-JUL-1999; 23-JUL-1999; 23-SEP-1999; 24-OCT-1999; 24-OCT-1999; 24-OCT-1999; 24-OCT-1999;

```
E2Fa/DPa transcription factor of Arabidopsis and using these sequences to alter plant characteristics accordingly. The present invention describes generating transgenic plants for the production of growth regulators, conzymes, therapeutics, pharmaceuticals and animal feed products, where the altered plant characteristics are selected from increased yield or biomass, enhanced survival capacity, stress tolerance, plant architecture or physiology, altered endoreduplication, biochemistry, signal cransduction, storage lipid mobilisation and/or altered photosynthesis, each relative to the corresponding wild type plants. Accordingly, these sequences can also be useful as positive or negative selectable markers during transformation of cells or tissues. The identified genes play a role in a variety of biological processes such as DNA replication, cell or tissues and/or across matching transformation and/or acrobon metabolism or they function as transcription factors. This polypeptide sequence is thale cress protein expressed by a gene upregulated 1.3 fold or more in plants overexpressing the entire or application of the elements.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Protein identification, signal transduction pathway, metabolic pathway, hybridisation assay, genetic mapping, gene expression control, promoter;
                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                         Length 485;
                                                                                                                                                                                                                                                                                    0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Arabidopsis thaliana protein fragment SEQ ID NO: 822.
                                                                                                                                                                                                                                                          DB 8;
o. 53;
                                                                                                                                                                                                                                                       66.7%; Score 6; DB 8
100.0%; Pred. No. 53;
:ive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                  AAG04696 standard; protein; 496 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     99US-0121825P.
99US-0123180P.
99US-0125788P.
99US-0126264P.
99US-0126264P.
99US-012624P.
99US-0128234P.
99US-013007P.
99US-0130091P.
99US-0130091P.
99US-0132448P.
99US-013248P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              25-FEB-2000; 2000EP-00301439
                                                                                                                                                                                                                                                                                                                                                                                                                                                  17-OCT-2000 (first entry)
                                                                                                                                                                                                                                                                                   6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               termination sequence
                                                                                                                                                                                                                                                                                                                                  DTFYYV 332
                                                                                                                                                                                                                                                                   Local Similarity
                                                                                                                                                                                                                                                                                                            4 DTFYYV 9
                                                                                                                                                                                                                                 Sequence 485 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EP1033405-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   29-MAR-1999;
01-APR-1999;
06-APR-1999;
08-APR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   06-MAY-1999;
06-MAY-1999;
07-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       16-APR-1999;
19-APR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      06-SEP-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            23-MAR-1999
25-MAR-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                21-APR-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   30-APR-1999
                                                                                                                                                                                                                                                                                                                                  327
                                                                                                                                                                                                                                                                                                                                                                                                                           AAG04696;
                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                         29
   8
                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            This invention relates to a novel method for altering one or more plant characteristics. Specifically, it refers to identifying genes that are up - or down-regulated in transgenic plants overexpressing the heterodimeric
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Altering plant characteristics, useful for producing plants for enzyme or pharmaceutical production comprises modifying in a plant, expression of one or more nucleic acids and/or modifying level or activity of one or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Thale cress protein upregulated in E2Fa/Dpa expressing plants SeqID 560.
                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    plant; transgenic; E2Fa/DPa transcription factor; growth regulator; animal feed product; thale cress; cell wall biosynthesis; nitrogen metabolism; carbon metabolism.
                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                          66.7%; Score 6; DB 3; Length 485; 100.0%; Pred. No. 53; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim 1; SEQ ID NO 560; 134pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                   ADN72665 standard; protein; 485 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Vlieghe K;
         990S-0159584P

990S-0160741P

990S-0160767P

990S-016070P

990S-016070P

990S-0160814P

990S-0160818P

990S-016080P

990S-016080P

990S-0161980P

990S-016190P

990S-0161361P

990S-0161361P

990S-0161361P

990S-0161920P

990S-0161920P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                20-OCT-2003; 2003WO-EP011658.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        18-OCT-2002; 2002EP-00079408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   15-JUL-2004 (first entry)
                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity luv...
6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           De Veylder L,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (CROP-) CROPDESIGN NV.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Arabidopsis thaliana.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 2004-348466/32.
N-PSDB; ADN72664.
                                                                                                                                                                                                                                                                                                                                                          327 DTFYYV 332
                                                                                                                                                                                                                                                                                                                                            4 DTFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WO2004035798-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               more proteins.
                                                                                                                                                           25-OCT-1999;
25-OCT-1999;
26-OCT-1999;
26-OCT-1999;
26-OCT-1999;
           4-0CT-1999;
1-0CT-1999;
1-0CT-1999;
1-0CT-1999;
1-0CT-1999;
1-0CT-1999;
2-0CT-1999;
2-0CT-1999;
3-0CT-1999;
                                                                                                                                                                                                                            28-OCT-1999;
28-OCT-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       29-APR-2004.
                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADN72665;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Inze D,
                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 28
8
                                                                                                                                                                                                                                                                                                                                                                   g
```

99US-0145218P 99US-0145218P 99US-0145213P 99US-0145313P 99US-0145313P 99US-0145313P 99US-0145318P 99US-0145318P 99US-014538BP 99US-014638BP 99US-0147303P 99US-0147303P 99US-0147303P 99US-0147303P 99US-0147303P 99US-0147303P 99US-014932BP 99US-014932BP 99US-014932BP 99US-014932BP 99US-014932BP 99US-014932BP 99US-014932BP 99US-014932BP 99US-014932BP 99US-0151303P 99US-0151303P 99US-0151303P 99US-0151303P 99US-0151303P 99US-0151303P 99US-0151303P 99US-0151303P 99US-0151303P 99US-0151303P 99US-0151303P 99US-0151303P 99US-0151303P 99US-0151303P 99US-0151303P 99US-0151303P 99US-0151303P 99US-0151303P 99US-0151303P 99US-0151333P 99US-0155336P 99US-015533P 99US-015533P 99US-015533P 99US-015533P 99US-015533P 99US-015533P 99US-0159333P 99US-0159333P 99US-0159333P 99US-0159333P 99US-0159333P 99US-0159333P	99US-0160768P. 99US-0160768P. 99US-0160770P. 99US-0160814P. 99US-0160815P.
23-JUL-1999; 26-JUL-1999; 27-JUL-1999; 27-JUL-1999; 27-JUL-1999; 28-JUL-1999; 28-JUL-1999; 28-JUL-1999; 28-JUL-1999; 28-JUL-1999; 38-JU	21-0CT-1999; 21-0CT-1999; 21-0CT-1999; 21-0CT-1999; 21-0CT-1999; 22-0CT-1999;
## ## ## ## ## ## ## ## ## ## ## ## ##	¥
99US-0134256P. 99US-0134219P. 99US-0134219P. 99US-0134219P. 99US-0134219P. 99US-0134310P. 99US-0134310P. 99US-0135124P. 99US-0135124P. 99US-0135124P. 99US-0135124P. 99US-0135124P. 99US-0135124P. 99US-0135124P. 99US-013452P. 99US-014083P. 99US-014292P. 99US-014292P. 99US-014334P. 99US-014334P. 99US-0143334P. 99US-0144333P. 99US-0144333P. 99US-0144333P. 99US-0144333P. 99US-0144333P. 99US-0144333P. 99US-0144844P.	99US-0145088F. 99US-0145085P. 99US-0145087P. 99US-0145192P. 99US-0145145P.
11 - MAY - 1999; 14 - MAY - 1999; 14 - MAY - 1999; 14 - MAY - 1999; 15 - MAY - 1999; 16 - MAY - 1999; 17 - MAY - 1999; 18 - MAY - 1999; 18 - MAY - 1999; 19 - MAY - 1999; 19 - MAY - 1999; 10 - JUN - 1999; 10 - JUN - 1999; 10 - JUN - 1999; 11 - JUN - 1999; 12 - JUN - 1999; 13 - JUN - 1999; 18 - JUN - 1999; 19 - JUL - 1999; 10 - JUL - 1999; 11 - JUL - 1999; 12 - JUL - 1999; 13 - JUL - 1999; 14 - JUL - 1999; 15 - JUL - 1999; 16 - JUL - 1999; 17 - JUL - 1999; 18 - JUL - 1999; 19 - JUL - 1999; 10 - JUL - 1999; 11 - JUL - 1999; 12 - JUL - 1999; 13 - JUL - 1999; 14 - JUL - 1999; 15 - JUL - 1999; 16 - JUL - 1999; 17 - JUL - 1999; 18 - JUL - 1999; 18 - JUL - 1999; 18 - JUL - 1999; 19 - JUL - 1999; 10 - JUL - 1999; 10 - JUL - 1999; 11 - JUL - 1999; 11 - JUL - 1999; 12 - JUL - 1999; 13 - JUL - 1999; 14 - JUL - 1999; 15 - JUL - 1999; 16 - JUL - 1999; 17 - JUL - 1999; 18 - J	701-1999 701-1999 701-1999 701-1999
## ## ## ## ## ## ## ## ## ## ## ## ##	7

```
990S-01360219-
990S-01360219-
990S-01375229-
990S-01375229-
990S-01375229-
990S-01375229-
990S-01375229-
990S-01375229-
990S-01394529-
990S-01394529-
990S-01394529-
990S-01394529-
990S-01394529-
990S-01394539-
990S-01394539-
990S-01394539-
990S-01394539-
990S-01394539-
990S-01394539-
990S-01394539-
990S-01408239-
990S-01408239-
990S-01408239-
990S-01408239-
990S-01408239-
990S-01408239-
990S-01408239-
990S-01408239-
990S-01408239-
990S-01408358-
990S-01408358-
990S-0141339-
990S-01443358-
990S-01443328-
990S-01443328-
990S-01443328-
990S-01443328-
990S-01443328-
990S-01443328-
990S-01443328-
990S-01443348-
990S-01443348-
990S-01443348-
990S-01443348-
990S-01443348-
990S-01443348-
990S-01443348-
990S-01443348-
990S-01443348-
990S-0144338-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99US-0145224P.
99US-0145276P.
99US-0145913P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               99US-0145919P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              99US-0145918P
        20 - MAY - 1999;
24 - MAY - 1999;
25 - MAY - 1999;
26 - MAY - 1999;
27 - MAY - 1999;
28 - MAY - 1999;
30 - JUN - 1999;
30 - JUN - 1999;
30 - JUN - 1999;
31 - JUN - 1999;
32 - JUN - 1999;
33 - JUN - 1999;
34 - JUN - 1999;
35 - JUN - 1999;
36 - JUN - 1999;
36 - JUN - 1999;
36 - JUN - 1999;
37 - JUN - 1999;
38 - JUN - 1999;
39 - JUN - 1999;
30 - JUN - 1999;
31 - J
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     23-JUN-1999;
23-JUN-1999;
24-JUN-1999;
28-JUN-1999;
30-JUN-1999;
01-JUL-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             12-701-1999;
13-701-1999;
14-701-1999;
15-701-1999;
16-701-1999;
16-701-1999;
19-701-1999;
19-701-1999;
19-701-1999;
19-701-1999;
19-701-1999;
20-701-1999;
20-701-1999;
21-701-1999;
21-701-1999;
21-701-1999;
21-701-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            27-JUL-1999;
27-JUL-1999;
28-JUL-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       22-JUL-1999;
          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Protein identification; signal transduction pathway; metabolic pathway; hybridisation assay; genetic mapping; gene expression control; promoter; termination sequence.
                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                       Score 6; DB 3; Length 496;
Pred. No. 54;
0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Arabidopsis thaliana protein fragment SEQ ID NO: 52696.
                                                                                                                                                                                                                                                                                                                                                                                                                 AAG42270 standard; protein; 500 AA.
                                                                                                                                                                                                                         66.7%; Scc
ilarity 100.0%; Pr
Conservative 0;
 99US-0160981P.
99US-0160989P.
99US-0161404P.
99US-0161406P.
99US-0161359P.
99US-0161361P.
99US-0161361P.
99US-0161920P.
99US-0161920P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         990S-0121825P.
990S-012548P.
990S-012558P.
990S-012664P.
990S-0126764P.
990S-01267462P.
990S-0128714P.
990S-0128714P.
990S-0130077P.
990S-0130077P.
990S-013048P.
990S-0132487P.
990S-0132486P.
990S-0132486P.
990S-0132486P.
990S-0132486P.
990S-0132486P.
990S-0132487P.
990S-0132487P.
990S-0132487P.
990S-0132486P.
990S-0132486P.
990S-0132486P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2000EP-00301439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                       Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                               338 DTFYYV 343
                                                                                                                                                                                                                                                                                              DIFYYV 9
22-0CT-1999;
25-0CT-1999;
25-0CT-1999;
25-0CT-1999;
26-0CT-1999;
26-0CT-1999;
28-0CT-1999;
28-0CT-1999;
28-0CT-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        25-FEB-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         25-FEB-1999, 05-MAR-1999, 05-MAR-1999, 23-MAR-1999, 25-MAR-1999, 25-MAR-1999, 06-APR-1999, 16-APR-1999, 21-APR-1999, 21-APR-1999, 30-APR-1999, 05-MAY-1999, 05-MAY-1999, 14-MAY-1999, 14-MAY-1999, 14-MAY-1999, 118-MAY-1999, 118-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EP1033405-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  18-OCT-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        06-SEP-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAG42270;
                                                                                                                                                                                                                                                                                                                                                                               RESULT 30
                                                                                                                                                                                                                                                                                                                                                                                                  AAG42270
   *****
                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                          g
```

```
PR 02-AUG-1999; 99US-0146386P.

PR 02-AUG-1999; 99US-0146388P.

PR 03-AUG-1999; 99US-0146388P.

PR 04-AUG-1999; 99US-0147038P.

PR 04-AUG-1999; 99US-0147038P.

PR 04-AUG-1999; 99US-0147038P.

PR 04-AUG-1999; 99US-0147302P.

PR 05-AUG-1999; 99US-0147302P.

PR 13-AUG-1999; 99US-0149735P.

PR 23-AUG-1999; 99US-0149735P.

PR 23-AUG-1999; 99US-0149735P.

PR 23-AUG-1999; 99US-0149732P.

PR 23-AUG-1999; 99US-014973P.

PR 23-AUG-1999; 99US-015066P.

PR 23-AUG-1999; 99US-015069P.

PR 13-CCT-1999; 99US-015069P.

PR 13-CCT-1999; 99US-01509P.

PR 23-CCT-1999; 99US-01509P.

PR 23-CCT
```

```
ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The invention relates to identifying target proteins (ABB90790-ABB94016) for herbicidally active compounds, comprising aligning and comparing nucleic acid or amino acid sequences from plant with nucleic acid or amino acid sequences from non-plant organisms using suitable search parameters, where plant sequences having an B-value greater by a factor of 3 than the B-value of most similar non-plant sequences are selected. The polypeptides or nucleic acids encoding them are useful for identifying modulators. The identified modulators are useful as
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Identifying plant target proteins for herbicidally active compounds, comprising aligning and comparing nucleic acid or amino acid sequences from plant with nucleic acid or amino acid sequences from non-plant
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                           Gaps
                                                                                                           .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 5; SEQ ID NO 1569; 261pp + Sequence Listing; English.
                                                                                 Length 500;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 500;
                                                                                                           0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .
                                                                                                                                                                                                                                                                                                          Herbicidally active polypeptide SEQ ID NO 1569.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 66.7%; Score 6; DB 5;
100.0%; Pred. No. 55;
iive 0; Mismatches
                                                                                Score 6; DB 3;
Pred. No. 55;
                                                                                        100.0%; Pred. wc.
                                                                                                                                                                                                                                                                                                                                      Herbicidal; plant; agriculture; herbicide.
                                                                                                                                                                                                                              ABB92358 standard; protein; 500 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     66., ...
100.0%; Pre-
             99US-0161920P.
99US-0161992P.
99US-0161993P.
99US-0162142P.
  99US-0161361P
                                                                                                                                                                                                                                                                                                                                                                                                                                            28-AUG-2001; 2001WO-EP009892.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       28-AUG-2001; 2001WO-EP009892.
                                                                                                                                                                                                                                                                                 31-MAY-2002 (first entry)
                                                                                                          6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Tietjen K, Weidler M;
                                                                                                                                                                                                                                                                                                                                                               Arabidopsis thaliana.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 2002-269010/31.
                                                                                                                                                          342 DTFYYV 347
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DTFYYV 347
                                                                                            Best Local Similarity
Matches 6; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Best Local Similarity
                                                                                                                                   4 DTFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4 DTFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (FARB ) BAYER AG.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 500 AA;
                                                                                                                                                                                                                                                                                                                                                                                         WO200210210-A2.
26-0CT-1999;
28-0CT-1999;
28-0CT-1999;
28-0CT-1999;
29-0CT-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                    07-FEB-2002.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               herbicides
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     organisms.
                                                                                                                                                                                                                                                         ABB92358;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              342
                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                    RESULT 31
ABB92358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
  RRRRR
                                                                                                                                    ઠ
                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
```

RESULT 32 AAG42269

```
990S-0139462P

990S-0139763P

990S-0139763P

990S-0139717P

990S-0140353P

990S-0140353P

990S-0140354P

990S-014037P

990S-014037P

990S-0142055P

990S-0142055P

990S-0142055P

990S-014205P

990S-014205P

990S-014332P

990S-0144334P

990S-0145319P

990S-0145319P

990S-0145319P

990S-0147302P

990S-0147303P

990S-0147303P

990S-0147303P

990S-0147303P

990S-0147303P

990S-0147303P

990S-0147303P

990S-0147331P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           990S-0149426P.
990S-0149722P.
990S-0149723P.
990S-0149929P.
990S-0149902P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     99US-0148565P.
99US-0148684P.
99US-0149368P.
99US-0149175P.
              18 - JUN - 1999;
18 - JUN - 1999;
22 - JUN - 1999;
23 - JUN - 1999;
23 - JUN - 1999;
24 - JUN - 1999;
24 - JUN - 1999;
25 - JUN - 1999;
26 - JUN - 1999;
27 - JUN - 1999;
28 - JUN - 1999;
29 - JUN - 1999;
20 - JUL - 1999;
20 - JUL - 1999;
21 - JUL - 1999;
22 - JUL - 1999;
23 - JUL - 1999;
24 - JUN - 1999;
25 - JUL - 1999;
26 - JUL - 1999;
27 - JUL - 1999;
28 - JUL - 1999;
28 - JUL - 1999;
29 - JUL - 1999;
20 - JUL - 1999;
21 - JUL - 1999;
22 - JUL - 1999;
23 - JUL - 1999;
24 - JUL - 1999;
25 - JUL - 1999;
27 - JUL - 1999;
                                                                                                                                                                                                                                                                                                                                                                                                                             23-JUL-1999;
23-JUL-1999;
26-JUL-1999;
27-JUL-1999;
27-JUL-1999;
28-JUL-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        04-AUG-1999;
04-AUG-1999;
05-AUG-1999;
06-AUG-1999;
06-AUG-1999;
09-AUG-1999;
10-AUG-1999;
11-AUG-1999;
11-AUG-1999;
                                                                                                                                                                                                                                                                                                                                                                                                 22-JUL-1999;
22-JUL-1999;
23-JUL-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     13-AUG-1999;
13-AUG-1999;
16-AUG-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  02-AUG-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      02-AUG-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                03-AUG-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          20-AUG-1999;
      Protein identification; signal transduction pathway; metabolic pathway; hybridisation assay; genetic mapping; gene expression control; promoter;
                                                           Arabidopsis thaliana protein fragment SEQ ID NO: 52695.
AAG42269 standard; protein; 510 AA
                                                                                                                                                                                                   990S-0121825P.
990S-0123180P.
990S-012548P.
990S-012664P.
990S-0126785P.
990S-0126748P.
990S-012874P.
990S-0130845P.
990S-0130845P.
990S-0130845P.
990S-0130845P.
990S-0132486P.
990S-0132486P.
990S-0132486P.
990S-0132487P.
990S-0132487P.
990S-0132487P.
990S-0132487P.
990S-0132487P.
990S-0132487P.
990S-0132487P.
990S-0132487P.
990S-0134218P.
990S-0134218P.
990S-0134218P.
990S-0134218P.
990S-0134218P.
990S-0134218P.
990S-0134228P.
990S-0134348P.
990S-0134234P.
990S-0134348P.
990S-0134348P.
990S-0134348P.
990S-0134348P.
990S-0134348P.
990S-0134348P.
990S-013448P.
990S-013448P.
990S-013448P.
990S-013448P.
990S-013448P.
990S-013448P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             99US-0139458P.
99US-0139459P.
99US-0139460P.
                                                                                                                                                                                 25-FEB-2000; 2000EP-00301439
                                        18-OCT-2000 (first entry)
                                                                                                    termination sequence
                                                                                                                      Arabidopsis thaliana
                                                                                                                                                                                                                                 23 - MAR - 1999;
25 - MAR - 1999;
01 - APR - 1999;
06 - APR - 1999;
16 - APR - 1999;
19 - APR - 1999;
21 - APR - 1999;
23 - APR - 1999;
30 - APR - 1999;
30 - APR - 1999;
30 - APR - 1999;
66 - MAY - 1999;
06 - MAY - 1999;
07 - MAY - 1999;
11 - MAY - 1999;
11 - MAY - 1999;
11 - MAY - 1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 14-MAY-1999;
18-MAY-1999;
19-MAY-1999;
20-MAY-1999;
21-MAY-1999;
                                                                                                                                          EP1033405-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 08 - 70N - 1999;
10 - 70N - 1999;
14 - 70N - 1999;
16 - 70N - 1999;
17 - 70N - 1999;
17 - 70N - 1999;
18 - 70N - 1999;
18 - 70N - 1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   18-JUN-1999;
18-JUN-1999;
18-JUN-1999;
18-JUN-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            25-MAY-1999;
27-MAY-1999;
28-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-JUN-1999;
03-JUN-1999;
04-JUN-1999;
07-JUN-1999;
                                                                                                                                                             06-SEP-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -MAY-1999
                     AAG42269;
```

```
The present invention relates to polynucleotide sequences, and the proteins they encode. The sequences are isolated from a variety of proteins they encode. The sequences are isolated from a variety of caganisms such as plants (e.g. maize, rice, sorghum, thale cress, captum, thale cress, and wheat), cyanobacteria, bacteria, yeast and other fungi. The polynucleotide and polypeptide sequences of the invention are useful in the production of transpant plants that have improved properties. Also disclosed are methods of producing fertile transpent plants, preferably maize, with desired phenotypes. The polynucleotide and polypeptide sequences are useful for improving plants by providing protection against commotic stress, improving altering sugar transport and/or metabolism, modifying the cell cycle pathway, reducing plant height, modifying carbohydrate transport, improving crop productivity, improving plant carbohism, carbohydrate transport, improving crop productivity, improving plant carbohism, carbohydrate transport, improving dead resistance, improving cold or heat tolerance, improving nitrogen assimilation, improving stalk strength, improving biotic and abiotic stress resistance, improving resistance to oxidative stress providing increased vigour, reducing sensescence, and conferring virus resistance. The present sequence represents a polypeptide sequence of the invention. Note: The sequence data for this patent is not provided in the printed approach.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                           osmotic stress; sugar transport; cell cycle pathway; plant height; carbohydrate transport; crop productivity; plant growth; stress resistance; disease resistance; insect resistance; heat tolerance; nitrogen assimilation; water stress tolerance; photosynthetic carbon fixation; virus resistance; gene therapy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                      New polynucleotide, useful for manipulating plant protein quality, improving plant growth, yield and crop productivity or grain composition or producing plants with improved properties.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               66.7%; Score 6; DB 8; Length 510;
100.0%; Pred. No. 56;
ive 0; Mismatches 0; Indels
               maize; rice; sorghum; thale cress;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 8; SEQ ID NO 446; 144pp; English
                                                                                                                                                                                                                                                                                                                                                                      Laccetti LB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ABB59871 standard; protein; 800 AA.
                                                                                                                                                                                                                                 04-DEC-2002; 2002US-00310154.
                                                                                                                                                                                                                                                                  04-DEC-2001; 2001US-0337358P.
                                                                                                                                                                                                                                                                                                                                                                      Chomet PS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                6; Conservative
                                                                                                                                                                                                                                                                                                 (EDGE/) EDGERTON M D.
(CHOM/) CHOMET P S.
(LACC/) LACCETTI L B.
                                                                                                                                                                                                                                                                                                                                                                                                     WPI; 2004-061374/06.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                at segdata.uspto.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               348 DTFYYV 353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4 DTFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                      N-PSDB; ADM47660
                                                                                                                                                              US2003233670-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 510 AA;
                                                                                                                                                                                                                                                                                                                                                                      Edgerton MD,
                                                                                                                                                                                                 18-DEC-2003.
                                                                                                                                 Zea mays.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ABB59871
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ABB59871
ID ABB
XX
AC ABB
ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               쉽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Polypeptide sequence #78 useful in producing transgenic plants.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 510;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            100.0%; Pred. No. 56; ive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADM48028 standard; protein; 510 AA.
                                                                                                                                                                                                                                                                                                                                                               9908-0158029P
9908-0158029P
9908-0158232P
9908-0159293P
9908-0159294P
9908-0159224P
9908-0159330P
9908-0159330P
9908-0159330P
9908-0159638P
9908-0169634P
9908-0160768P
9908-0160768P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     99US-0160989P.
99US-0161404P.
99US-0161405P.
99US-0161406P.
          99US-0150566P.
99US-015084P.
99US-0151065P.
99US-0151060P.
99US-0151303P.
99US-0151303P.
99US-015130P.
99US-015376P.
99US-0153758P.
99US-0153758P.
99US-0153758P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      99US-0160815P.
99US-0160980P.
99US-0160981P.
                                                                                                                                                                                                                                             99US-0155139P.
99US-0155486P.
99US-0155659P.
99US-0156458P.
                                                                                                                                                                                                                                                                                                               99US-0156596P.
99US-0157117P.
99US-0157753P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       99US-0161359P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99US-0161361P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99US-0161920P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         99US-0161993P
99US-0162142P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              66.78;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   352 DTFYYV 357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4 DIFYYV 9
                                                                                                                                                                                                                                                                                                                                                               06-077-1999;
07-077-1999;
08-077-1999;
13-077-1999;
13-077-1999;
14-077-1999;
14-077-1999;
14-077-1999;
14-077-1999;
14-077-1999;
                                                                            27-AUG-1999;
30-AUG-1999;
31-AUG-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               03-JUN-2004
                                                           27-AUG-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    18-OCT-1999
21-OCT-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        21-OCT-1999
21-OCT-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ADM48028;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
```

田林北林林田

ઠ g us-10-764-985-2.oli.rag

```
The invention relates to an isolated nucleic acid detection reagent capable of detecting 1000 or more genes from Drosophila. The invention is useful in developmental biology and in elucidating cell signalling and cell-cell interactions in higher eukaryotes for the development of insecticides, therapeutics and pharmaceutical drugs. The invention discloses genomic DNA sequences (ABL16176-ABL30511), expressed DNA sequences (ABL16176-ABL30511), expressed DNA sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences
                                                                                                                                                                                                                       New isolated nucleic acid detection reagent for detecting 1000 or more genes from Drosophila and for elucidating cell signaling and cell-cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Recombinant DNA construct; transformed plant; improved plant property; cold tolerance; heat tolerance; drought tolerance; herbicide; osmosis; pathogen tolerance; pest tolerance; plant disease resistance; cell cycle pathway modification; plant growth regulator; homologous recombination; seed oil yield; protein yield; carbohydrate; nitrogen; phosphorus; photosynthesis; lignin; galactomannan; bacterial polypeptide.
                                                                                                                                                                                                                                                                                                 Disclosure; SEQ ID NO 40986; 21pp + Sequence Listing; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 900;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 4;
5. 94;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             66.7%; Score 6; DB 4
100.0%; Pred. No. 94;
ive 0; Mismatches
                                                                                                                            Myers EW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ADN21456 standard; protein; 1136 AA
                                                                                                                          PWD,
                              23-MAR-2000; 2000US-0191637P.
11-JUL-2000; 2000US-00614150.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          20-FEB-2003; 2003US-00369493.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                21-FEB-2002; 2002US-0360039P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Bacterial polypeptide #4109.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
                                                                                                                          ŗ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity 100.
Matches 6; Conservative
                                                                                                                          Venter JC, Adams M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HINKLE G J.
SLATER S C.
CHEN X.
GOLDMAN B S.
                                                                                                                                                                 WPI; 2001-656860/75.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            304 DTFYYV 309
                                                                                    (PEKE ) PE CORP NY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4 DTFYYV 9
                                                                                                                                                                                     N-PSDB; ABL15501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 900 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US2003233675-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAO Y.
                                                                                                                                                                                                                                                                 interactions.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       02-DEC-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   18-DEC-2003.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ADN21456;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Bacteria.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (HINK/)
(SLAT/)
(CHEN/)
(GOLD/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAOY/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ADN2145
            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The invention relates to an isolated nucleic acid detection reagent capable of detecting 1000 or more genes from Drosophila. The invention is useful in developmental biology and in elucidating cell signalling and cell.cell interactions in higher eukaryotes for the development of insecticides, therapeutics and pharmaceutical drugs. The invention discloses genomic DNA sequences (ABL16176-ABL30511), expressed DNA sequences (ABL16175) and the encoded proteins (ABB57737-ABB72072). The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         New isolated nucleic acid detection reagent for detecting 1000 or more genes from Drosophila and for elucidating cell signaling and cell-cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                              Drosophila; developmental biology; cell signalling; insecticide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Drosophila; developmental biology; cell signalling; insecticide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Disclosure; SEQ ID NO 6405; 21pp + Sequence Listing; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Drosophila melanogaster polypeptide SEQ ID NO 40986.
                                          Drosophila melanogaster polypeptide SEQ ID NO 6405.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             66.7%; Score 6; DB 4;
100.0%; Pred. No. 84;
iive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                              Myers EW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ABB71398 standard; protein; 900 AA.
                                                                                                                                                                                                                                                                                                                                                                                            Li PWD,
                                                                                                                                                                                                                                                       23-MAR-2001; 2001WO-US009231.
                                                                                                                                                                                                                                                                                           23-MAR-2000; 2000US-0191637P.
11-JUL-2000; 2000US-00614150.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               23-MAR-2001; 2001WO-US009231.
    (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         26-MAR-2002 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       6; Conservative
                                                                                                                                        Drosophila melanogaster.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Drosophila melanogaster.
                                                                                                                                                                                                                                                                                                                                                                                            Adams M,
                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 2001-656860/75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DDTFYY 760
                                                                                                                                                                                                                                                                                                                                                    (PEKE ) PE CORP NY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                    N-PSDB; ABL03974
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 800 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3 DDTFYY
                                                                                                                                                                           WO200171042-A2.
                                                                                                pharmaceutical
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            pharmaceutical
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WO200171042-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 interactions.
26-MAR-2002
                                                                                                                                                                                                                 27-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                          Venter JC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           27-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  755
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
```

Matches

RESULT 35

g

ઠ

ö

Gaps

```
invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ADA04060;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADA04060
    ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The invention relates to a recombinant DNA construct comprising a promoter functional in a plant cell, where the promoter is positioned to promoter functional in a plant cell, where the promoter is positioned to provide for expression of a polynucleotide encoding a polypeptide from a microbial source. The invention also relates to a transformed plant comprising the recombinant DNA construct and a method of producing a transformed plant such as maize or soybean. The method of producing a transformed plant having an improved property comprises transforming a plant with the recombinant DNA construct and growing the transformed plant, where the polynucleotide or polypeptide is useful for improving plant properties. The recombinant DNA construct is useful for improving plants with the recombinant DNA construct is useful for improving plants with colerance to herbicides, extreme osmotic conditions, pathogens or pests, increased resistance to plant disease, better growth rate by modification of the cell cycle pathway with plant growth regulators, increased rate of homologous recombination, modified seed oil or protein yield and/or content, improved plant growth and development under at least one stress condition, improved plant growth and development under at least one stress condition, improved lighting production or improved glactomannan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                       New recombinant DNA construct comprising a promoter positioned to provide for expression of a polynucleotide encoding a polypeptide from a microbial source, useful for producing plants with improved properties.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Cytostatic; antidiabetic; neuroprotective; cerebroprotective; ophthalmological; insulin; receptor; gene therapy; diabetes; insulin: IfF-1; tumour; prostate; breast; insulin-11ke growth factor-1; IGF-1; tumour; prostate; breast; diabetic retinopathy; neurological diseases; stroke; diabetic neuropathy.
                                                                                                                                                                                                                                                                                                                                                                                                                                       production. This sequence represents a bacterial polypeptide used in the scope of the invention. Note: The sequence data for this patent did not form part of the printed specification but was obtained in electronic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Insulin/insulin-like growth factor receptor-binding peptide #1194.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           66.7%; Score 6; DB 8; Length 1136; 100.0%; Pred. No. 1.2e+02; ive 0; Mismatches 0; Indels
 Goldman BS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  format from USPTO at segdata.uspto.gov/sequence.html
 Chen X,
                                                                                                                 Claim 1; SEQ ID NO 4109; 122pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAU89238 standard; peptide; 21 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (DGIB-) DGI BIOTECHNOLOGIES LLC. (NOVO ) NOVO NORDISK AS.
 Slater SC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 29-MAR-2000; 2000WO-US008528
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              29-MAR-2000; 2000WO-US008528
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         6; Conservative
                            WPI; 2004-061375/06.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              338 DTFÝYV 343
Hinkle GJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
Matches 6; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4 DTFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 1136 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WO200172771-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               18-JUN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     04-OCT-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAU89238;
 Cao Y,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 37
셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ð
```

```
The invention relates to a method of modulating insulin activity in mammalian cells by administering a peptide that binds the insulin receptor (TR). A composition containing a peptide, optionally expressed from gene therapy vectors, that binds to Site I of IR and an insulin agonist are useful for treating diabetes. Also, peptides that are useful for treating diabetes. Also, peptides that are useful for treating insulin-like growth factor-1 (IGF-1) receptor are useful for treating insulin-like growth factor (IGF)-sensitive tumours (e.g. of prostate and breast) and diabetic retinopathy, while IGF-1 receptor agonists are useful for treating neurological diseases, including stroke and diabetic neuropathy. The peptides are also useful in screening for compounds that bind to IR or IGF-1 receptor, potential therapeutics and research reagents. AAU88034-AAU90957 represent IR and/or IGF-1 receptor-binding peptides and related amino acid sequences of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             insulin-like growth factor receptor; IGFR; modulate; insulin receptor; IR; insulin; cytostatic; IGFR agonist; IGFR antagonist; cancer; leukaemia; sarcoma; lymphoma; carcinoma.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Modulating insulin-like growth factor receptor (IGFR) activity in IGF-
                                                                                                                                                                                                        Modulating insulin activity in mammalian cells, for treating e.g. diabetes and tumors, comprises using peptides that bind to insulin or insulin-like growth factor receptors.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Insulin receptor (IR) related Formula 1 motif peptide SEQ ID NO:691
Pillutla R, Brandt J;
Ostergaard S, Mandecki WS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Brissette
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Blume AJ, Goldstein NI,
(, Lennick M, Fletcher P;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       55.6%; Score 5; DB 5; 100.0%; Pred. No. 45; iive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                             Disclosure; Fig 10-2; 390pp; English.
Schaeffer L,
J, Cheng W,
Hsiao K;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADA04060 standard; peptide; 21 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             24-SEP-2002; 2002WO-US030412.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             24-SEP-2001; 2001US-00962756.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (NOVO ) NOVO NORDISK AS. (DGIB-) DGI BIOTECHNOLOGIES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pillutla R, Dedova O, Blu
Wang P, Liu H, Hsiao K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
   Beasley J, Blume AJ,
Brissette R, Spetzler
Hansen PH, Ravera M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 2003-363211/34.
                                                                                                                                        WPI; 2002-025774/03.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WO2003027246-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 21 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DDTFY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3 DDTFY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  06-NOV-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           03-APR-2003.
```

```
The growth factor receptor (IGRR) activity in insulin-like growth factor receptor (IGRR) activity in insulin-like growth factor receptor (IGRR) activity in insulin-like growth factor receptor (IGRR) activity of IGRR. In modulating IGRR activity, the amino acid sequence comprises XXZXXXXXX (I), where XI, XZ and XS = phenylalanine or tyrosine; X3 = asparit acid, glutamic acid, glycine or serine; and X4 = tryptophan, tyrosine or phenylalanine. The amino acid sequence is not insulin, insulin-like growth receptor antibody, an anti-insulin-like growth receptor antibody, or its fragment. Also described: (1) decreasing or increasing IGRR activity in IGR-responsive mammalian cells by contacting the cells with an amino acid sequence to decrease or increase the activity of IGRR; (2) an IGRR modulator, agonist or antagonist; (3) identifying IGRR modulator; and (4) enhancing survival of an IGR-responsive mammalian cell by contacting the cell with (I) to enhance the survival of the cell. IGRR modulators have cytostatic activity, and can be used as IGRR agonists are carcinoma. The methods, modulators, agonists and antagonists are carcinoma. The methods are useful for identifying molecular structures that are capable of acting as an IGRR agonist. The present invarior represents a peptide given in the exemplification of the present invarior.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
responsive mammalian cells, useful for treating cancer comprises contacting the cells with an amino acid sequence to modulate the activity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     insulin receptor; insulin; insulin-like growth factor receptor; agonist; antagonist; antidiabetic; diabetes; insulin shock.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Modulating insulin-like growth factor receptor (IGFR) activity in IGF-responsive mammalian cells, useful for treating diabetes comprises
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                          present invention describes a method for modulating insulin-like
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Brandt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                55.6%; Score 5; DB 6; Length 21; 100.0%; Pred. No. 45; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Blume AJ, Schaeffer L,
Ostergaard S;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Insulin receptor motif polypeptide, SEQ ID No 691.
                                                                                    Disclosure, Fig 10; 372pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ADH95273 standard; protein; 21 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      24-SEP-2001; 2001US-00962756.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                24-SEP-2002; 2002WO-US030312.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (NOVO ) NOVO NORDISK AS. (DGIB-) DGI BIOTECHNOLOGIES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Brissette R,
, Spetzler J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         22-APR-2004 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 55.6
Best Local Similarity 100.
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 2003-833235/77.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3 DDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DDTFY 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 21 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WO2003070747-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Goldstein NI,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Unidentified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          28-AUG-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pillutla R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ADH95273;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 39
            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Š
```

```
ô
                                                                     The invention relates to a novel method for decreasing or increasing insulin receptor activity in mammalian cells. The invention further relates to peptide sequences capable of binding to insulin and/or insulin-like growth factor receptors with either agonist or antagonist activity. The peptide sequences are identified from various peptide libraries. The novel method comprises administering to the mammalian cells an amino acid having subsequences that binds to site 1 and site 2 of an insulin receptor. The subsequences are joined C-terminus to N-terminus and oriented site 1 to site 2. The sequence is not insulin or insulin-like growth factor. The peptides sequences of the invention have antidiabetic activity. The peptides are useful for treating diabetes or insulin shock. This sequence represents an insulin receptor/ insulin growth factor receptor binding polypeptide relating to the invention.
contacting the cells with an amino acid sequence to modulate the activity
                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   cytostatic; insulin-like growth factor receptor activity; insulin-like growth factor-responsive mammalian cell; insulin-like growth factor receptor modulator; insulin-like growth factor receptor antagonist; insulin-like growth factor receptor agonist; insulin receptor; insulin-like growth factor receptor; therapeutic; peptide hormone; cancer; breast cancer; prostate cancer; colorectal cancer;
                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Blume AJ, Goldstein NI, Brissette R;
                                                                                                                                                                                                                                                                                                                                                        0; Indels
                                                                                                                                                                                                                                                                                                                         55.6%; Score 5; DB 7; Length 21; 100.0%; Pred. No. 45;
                                                                                                                                                                                                                                                                                                                                     100.0%; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ovarian cancer; peptide library; IGF-1R; IR
                                           Claim 7; SEQ ID NO 691; 328pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IGF-1R/IR binding peptide seq id 691.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ADL67964 standard; peptide; 21 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           24-SEP-2002; 2002US-00253493.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         98US-00146127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    29-MAR-2000; 2000US-00538038.
24-SEP-2001; 2001US-00962756.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           20-MAY-2004 (first entry)
                                                                                                                                                                                                                                                                                                                                                         5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DEDOVA O.
BLUME A J.
GOLDSTEIN N I.
BRISSETTE R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pillutla R, Dedova O,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PILLUTLA R.
                                                                                                                                                                                                                                                                                                                                     Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FLETCHER P
                                                                                                                                                                                                                                                                                                                                                                                      3 DDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LIU H.
HSIAO K.
LENNICK N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US2004023887-A1
                                                                                                                                                                                                                                                                                            Sequence 21 AA;
                                                                                                                                                                                                                                                                                                                                                                                                             DDTFY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Unidentified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         02-SEP-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            05-FEB-2004.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ADL67964;
                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (HSIA/)
(LENN/)
(FLET/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (DEDO/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (PILLL/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BRIS/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WANG/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LIGH/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GOLD/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ADL67964
셤
                                                                                                                                                                                                                                                                                                                                                                                        ₹
```

Wang

```
The invention relates to a method of decreasing insulin receptor activity in mammalian cells which comprises administering an amino acid sequence having a subsequence comprising a sequence that binds to Site 1 and Site 2 of insulin receptor, where the subsequences are linked C-terminus to N-terminus and oriented Site 1 to Site 2, where the amino acid sequence is not insulin, insulin-like growth factor or their fragments. The methods and compositions of the present invention are useful for treating insulin-or insulin-like growth factor-related diseases or conditions, such as diabetes and insulin shock. The present sequence is used in the exemplification of the present invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      insulin-like growth factor receptor; IGFR; modulate; insulin receptor;
                                                                                                                                                                                                                                                                               Decreasing or increasing insulin receptor activity in mammalian cells using peptide sequences that bind insulin and/or insulin-like growth factor receptors, useful for treating diabetes and insulin shock.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IR; insulin; cytostatic; IGFR agonist; IGFR antagonist; cancer; leukaemia; sarcoma; lymphoma; carcinoma.
                                                                                                                                                                      Blume AJ, Schaffer L, Brandt J;
Ostergaard S, Hansen PH;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pillutla R, Dedova O, Blume AJ, Goldstein NI, I
Wang P, Liu H, Hsiao K, Lennick M, Fletcher P;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              55.6%; Score 5; DB 8, 100.0%; Pred. No. 45; ive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                           Claim 7; SEQ ID NO 691; 203pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IGF-1R binding peptide SEQ ID NO:1425.
                                                                                                                                                                      Blume AJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ADA04794 standard; peptide; 27 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                24-SEP-2002; 2002WO-US030412.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           24-SEP-2001; 2001US-00962756.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (NOVO ) NOVO NORDISK AS. (DGIB-) DGI BIOTECHNOLOGIES.
                                                                                                                                                                 Brissette R,
, Spetzler J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                               BRANDT J.
GOLDSTEIN N I.
                                                                        SPETZLER J.
OSTERGAARD S.
HANSEN P H.
                                                                                                                                                                                                                                      WPI; 2004-081583/08
       SCHAFFER L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 2003-363211/34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4 DDTFY 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WO2003027246-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 21 AA;
                                                                                                                                                              Pillutla R, Br
Goldstein NI,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3 DDTFY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               06-NOV-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  03-APR-2003.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ADA04794;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                             (OSTE/)
(HANS/)
                               BRAN/)
                                                  (GOLD/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 42
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ADA04794
       ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    peptides for modulating, increasing or decreasing insulin-like growth factor receptor activity in insulin-like growth factor receptor adminingly an insulin-like growth factor receptor adminingly in insulin-like growth factor receptor adminingly insulin-like growth factor receptor modulator; and enhanding survival of an insulin-like growth factor receptor activity in insulin-like growth factor receptors activity in insulin-like growth factor receptors activity in insulin-like growth factor receptors activity in ansulin-like growth for binding to insulin and and activity. As agonists, the peptides are useful for development of therapeutics to supplement or replace endogenous peptide hormones. The gradulating other more potent or selective therapeutics, assay reagents for identifying other more potent or selective therapeutics, assay reagents of analysis of IR and IGF-IR. The IGF-IR antagonists are useful as treatment for cancer, e.g. breast, prostate, colorectal or ovarian cancer. This is the amino acid sequence of a IGF-IR/IR binding peptide obtained by the receptor (IGF-IR) and insulin receptor (IR). Note: This sequence is also available in electronic format from the US patent office at the sequence is also available in electronic format from the US patent office at
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    insulin receptor activity; insulin-related disease;
insulin-like growth factor-related disease; diabetes; insulin shock.
                                                                                                                                         invention describes the use of molecular structures, preferably
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 21;
    Lennick M, Fletcher P;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  45;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      55.6%; Score 5; DB 8
100.0%; Pred. No. 45;
tive 0; Mismatches
                                                                                         Disclosure; SEQ ID NO 691; 242pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Anti-IR formula 1 motif peptide #427.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADM37809 standard; peptide; 21 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             29-MAR-2000; 2000US-00538038.
24-SEP-2001; 2001US-00962756.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              24-SEP-2002; 2002US-00253471.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            98US-00146127
P, Liu H, Hsiao K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Best Local Similarity 100.
Matches 5; Conservative
                                                WPI; 2004-132606/13.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (PILL/) PILLUTLA R.
(BRIS/) BRISSETTE R.
(BLUM/) BLUME A J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3 DDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US2003236190-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 21 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          02-SEP-1998;
29-MAR-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           03-JUN-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   25-DEC-2003.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ADM37809;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
```

RESULT 41 ADM37809

ઠ 셤

ö

Gaps

ö

Brissette R;

```
The present invention describes a method for modulating insulin-like growth factor receptor (IGFR) activity in insulin-like growth factor-c growth factor receptor (IGFR) activity in insulin-like growth factor-c growth factor reagonative mammalian cells comprising contacting the cells with an amino acid sequence to modulate the activity of IGFR. In modulating IGFR activity, the amino acid sequence comprises XIXZXXXXXX (I), where XI, XZ and XS = phenylalanine or tyrosine or phenylalanine. The growth factor, an anti-cipaline or phenylalanine. The amino acid sequence is not insulin, insulin-like growth factor, an anti-cipaline in receptor antibody, an anti-insulin-like growth faceptor antibody, or its fragment. Also described: (I) decreasing or increased in IGF-responsive mammalian cells by contacting the cells with an amino acid sequence to decrease or increase the activity of IGFR; (2) an IGFR modulator, agonist or antagonist; (3) identifying IGFR modulator; and (4) enhancing survival of an IGF-responsive mammalian cell by contacting the cell with (I) to enhance the survival of the cell. IGFR modulators have cytostatic activity, and can be used as IGFR agonists or IGFR antagonists. The methods, modulators, agonists and antagonists are contacting the cell with (I) to enhance is accome, lymphoma or carcinoma. The methods are useful for identifying molecular structures that are capable of acting as an IGFR agonist or antagonist. The present invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
Modulating insulin-like growth factor receptor (IGFR) activity in IGF-responsive mammalian cells, useful for treating cancer comprises contexting the cells with an amino acid sequence to modulate the activity of IGFR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      insulin receptor; insulin; insulin-like growth factor receptor; agonist; antagonist; antidiabetic; diabetes; insulin shock.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Modulating insulin-like growth factor receptor (IGFR) activity in IGF-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Schaeffer L, Brandt J;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 27;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Insulin growth factor receptor peptide, SEQ ID No 1425.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   55.6%; Score 5; DB 6;
100.0%; Pred. No. 57;
iive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ostergaard S;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Blume AJ,
                                                                                                             Example 11; Fig 43; 372pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ADH96007 standard; protein; 27 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                24-SEP-2002; 2002WO-US030312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     24-SEP-2001; 2001US-00962756
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (NOVO ) NOVO NORDISK AS.
(DGIB-) DGI BIOTECHNOLOGIES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Goldstein NI, Spetzler J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          22-APR-2004 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Brissette R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 2003-833235/77.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ||||||
DDTFY 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3 DDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WO2003070747-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 27 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Unidentified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          28-AUG-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pillutla R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ADH96007;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ADH96007
             ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
```

```
ö
                                                                                        The invention relates to a novel method for decreasing or increasing insulin receptor activity in mammalian cells. The invention further relates to peptide sequences capable of binding to insulin and/or insulin-like growth factor receptors with either agonist or antagonist activity. The peptide sequences are identified from various peptide libraries. The novel method comprises administering to the mammalian cells an amino acid having subsequences that binds to site 1 and site 2 of an insulin receptor. The subsequences are joined C-terminus to N-terminus and oriented site 1 to site 2. The sequence is not insulin or insulin-like growth factor. The peptide sequences of the invention have antidiabetic activity. The peptides are useful for treating diabetes or insulin shock. This sequence represents an insulin receptor/ insulin growth factor receptor binding polypeptide relating to the invention.
responsive mammalian cells, useful for treating diabetes comprises contacting the cells with an amino acid sequence to modulate the activity
                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               cytostatic; insulin-like growth factor receptor activity; insulin-like growth factor-responsive mammalian cell; insulin-like growth factor receptor modulator; insulin-like growth factor receptor antegonist; insulin-like growth factor receptor agonist; insulin-like growth factor receptor; therapeutic; peptide hormone; cancer; breast cancer; prostate cancer; colorectal cancer; ovarian cancer; peptide library; IGF-IR; IR.
                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                0; Indels
                                                                                                                                                                                                                                                                                                                                                 Length 27;
                                                                                                                                                                                                                                                                                                                                               55.6%; Score 5; DB 7;
100.0%; Pred. No. 57;
cive 0; Mismatches
                                                              Example 14; SEQ ID NO 1425; 328pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IGF-1R/IR binding peptide seq id 1425.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ADL68698 standard; peptide; 27 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      02-SEP-1998; 98US-00146127.
29-MAR-2000; 2000US-00538038.
24-SEP-2001; 2001US-00962756.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          24-SEP-2002; 2002US-00253493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                                                                                                                                                                                                                                                                                              5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PILLUTLA R.
DEDOVA O.
BLUME A J.
GOLDSTEIN N I.
BRISSETTE R.
                                                                                                                                                                                                                                                                                                                                                           Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HSIAO K.
LENNICK M.
FLETCHER
                                                                                                                                                                                                                                                                                                                                                                                                             DDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                           DDTFY 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US2004023887-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WANG P.
                                                                                                                                                                                                                                                                                                                  Sequence 27 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LIU H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Unidentified.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        20-MAY-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            05-FEB-2004.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ADL68698;
                                                                                                                                                                                                                                                                                                                                                 Query Match
                                IGFR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (PILL/)
(DEDO/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (GOLD/)
(BRIS/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (WANG/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (LENN/)
(FLET/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (HSIA/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BLUM/
                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 44
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADL68698
###X8X0000000000000X8
                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                               ઠ
```

```
DDTFY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 DDIFY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   29-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              16-OCT-2003.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ABO57827;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ٣
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                        (GOLD/)
(SPET/)
(OSTE/)
(HANS/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Penn SG,
                                         BRAN/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AB057827
         ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ð
                                                                                                                                  peptides for modulating, increasing or decreasing insulin-like growth factor receptor activity in insulin-like growth factor receptor agonist; indentifying an insulin-like growth factor receptor agonist; and enhancing survival of an insulin-like growth factor receptor adoulator; and enhancing survival of an insulin-like growth factor receptor activity in insulin-like growth factor receptors activity in an insulin-like growth factor receptors for the receptor activity. As agonists, the peptides are useful for development of the rangements of the receptor (IRF-IR) in the insulin-like growth factor in the receptor (IRF-IR) and insulin receptor (IRF) receptor (IRF-IR) receptor of the receptor 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      insulin receptor activity; insulin-related disease;
insulin-like growth factor-related disease; diabetes; insulin shock.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ;
0
     Brissette R;
                                                                                                                       invention describes the use of molecular structures,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    55.6%; Score 5; DB 8; Length 27; 100.0%; Pred. No. 57; 0; Indels ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ftp.seqdata.uspto.gov/sequence.html?DocID=20040023887
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Insulin and IGF-1 receptor associated peptide #164.
Pillutla R, Dedova O, Blume AJ, Goldstein NI, 1
Wang P, Liu H, Hsiao K, Lennick M, Fletcher P;
                                                                                      Disclosure; SEQ ID NO 1425; 242pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ADM38543 standard; peptide; 27 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             02-SEP-1998; 98US-00146127.
29-MAR-2000; 2000US-00538038.
24-SEP-2001; 2001US-00962756.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            24-SEP-2002; 2002US-00253471.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                    WPI; 2004-132606/13.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity
Local 5; Conserv?
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (PILL/) PILLUTLA R.
(BRIS/) BRISSETTE R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US2003236190-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 27 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3 DDTFY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 DDTFY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   03-JUN-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              25-DEC-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ADM38543;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADM38543
 요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠ
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                  The invention relates to a method of decreasing insulin receptor activity in mammalian cells which comprises administering an amino acid sequence having a subsequence comprising a sequence that binds to Site 1 and Site 2 of insulin receptor, where the subsequences are linked C-terminus to N-terminus and oriented Site 1 to Site 2, where the amino acid sequence is not insulin, insulin-like growth factor or their fragments. The methods and compositions of the present invention are useful for treating insulin-or insulin-like growth factor-related diseases or conditions, such as diabetes and insulin shock. The present sequence is used in the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New human genome-derived single exon nucleic acid probes useful for human
                                                                                                                                                                                                                                                   Decreasing or increasing insulin receptor activity in mammalian cells using peptide sequences that bind insulin and/or insulin-like growth factor receptors, useful for treating diabetes and insulin shock.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .;
0
                                                                                                                                                             Brandt J;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 27;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human; gene expression; single exon probe; microarray;
alternative splicing event; genomic alteration.
                                                                                                                                                         Blume AJ, Schaffer L, Br
Ostergaard S, Hansen PH;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human genome derived single exon protein #4061.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 5; DB 8;
Pred. No. 57;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                  Disclosure; SEQ ID NO 1425; 203pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     exemplification of the present invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ABO57827 standard; protein; 59 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          55.6%; £
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Hanzel DK;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         03-APR-2002; 2002US-00029386.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  03-APR-2002; 2002US-00029386
                                                                                                                                                       Pillutla R, Brissette R, I
Goldstein NI, Spetzler J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
BLUME A J.
SCHAFFER L.
BRANDT J.
GOLDSTEIN N I.
SPETZLER J.
OSTERGAARD S.
                                                                                                                                                                                                                 WPI; 2004-081583/08.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 2004-119264/12.
                                                                                                                    HANSEN P H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (PENN/) PENN S G.
(RANK/) RANK D R.
(HANZ/) HANZEL D K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Rank DR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ^
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US2003194704-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 27 AA;
```

us-10-764-985-2.oli.rag

```
The invention relates to a nucleic acid probe for measuring human gene expression, comprising any of the 27,400 fully defined nucleotide sequences of sequences in the specification, or their complements or fragments, and encoding at least 8 amino acids of any of the 6888 amino acid sequences fully defined in the specification. The probe is a single exon probe that hybridises under high stringency conditions to a nucleic acid molecule expressed in human cells or tissues. Also included are a spatially-datressed in human cells or tissues. Also included are a spatially-datressed in human cells or tissues. Also included are a spatially-depressed in human cells or tissues. Also included are a spatially-defereably isolately exon nucleic acid molecule expression (comprising a plurality of gingle exon nucleic acid adversable or amplifitable from the plurality, a single of any office acid or comprising the single exon and addressably theolately man gene expression, a method of exon microarray for measuring human gene expression, a vector comprising at least 8 contiguous amino acids of any of the above-mentioned amino acid sequences (optionally with conservative amino acid substitutions), an configuous amino acid and/or licensing single exon probes or microarrays to isolated antibody that blunds specifically to a peptide cited above. The probe measure gene expression a single exon probes or microarrays to including data on the expression of a single exon probe cited above. The probes may be used as tools for surveying thuman gene expression data by subscription, and a computer-readable (each record including data on the expression of a single exon probe cited above. The probes may be used as tools for surveying tissues to detect the probes may be used as tools for surveying tissues to detect the probes and apparatus are useful in gene expression analysis. The probes may be used as tools for surveying alterative splicing events, in detecting and characterising gross alterations in the genomic locus that includes their exon
gene expression analysis, for identifying or characterizing alternative splicing events, for assessing genomic alterations or as tools for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SAPHO syndrome; synovitis; acne; pustulosis; hypertosis; osteomyelitis; uveitis; endopthalmitis; bone; joint; central nervous system; ELISA; inflammatory lesion; acne vulgaris; enryme linked immunosorbent assay; dermatological; osteopathic; neuroprotectent.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  55.6%; Score 5; DB 8; Length 59;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Propionibacterium acnes immunogenic protein #5320.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1.2e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   100.0%; Prec. ...
                                                                                                Claim 45; SEQ ID NO 31461; 80pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAU44424 standard; protein; 62 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        27-FEB-2002 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity 100.
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Propionibacterium acnes.
                                                     surveying tissues.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   48 DDTFY 52
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3 DDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 59 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WO200181581-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 47
         δ
```

01-NOV-2001

```
Sequences AAU39105-AAU68017 represent Propionibacterium acnes immunogenic polypeptides. The proteins and their associated DNA sequences are used in the treatment, prevention and diagnosis of medical conditions caused by C. P. acnes. The disorders include SAPHO syndrome (synovitis, acne, pustulosis, hypertosis and costeonyalitis), uveitis and endophthalmitis. C. P. acnes is also involved in infections of bone, joints and the central nervous system, however it is particularly involved in the inflammatory lesions associated with acne vulgarits. A method for detecting the CC presence or absence of P. acnes in a patient comprises contacting a sample with a binding agent that binds to the proteins of the invention and determining the amount of bound protein in the sample. The polypeptides may be used as antigens in the production of antibodies contacting the captering and activity of P. acnes polypeptides and commerced to acnes infections. The antibodies may also be used as contacting the antibodies may also be used as chargened in the production of antibodies of contacting the antibodies may also be used as contacting the antibodies may also be used as contactions. The antibodies may also be used as chargened in the production of contampart of the printed specification, but was contacting the contaction of contained in electronic format directly from WIPO at
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                              Propionibacterium acnes polypeptides and nucleic acids useful for vaccinating against and diagnosing infections, especially useful for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Propionibacterium acnes predicted ORF-encoded polypeptide #5619.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Acne vulgaris; antiseborrhoeic; dermatological; antibacterial; immunostimulant; immune response; vaccine.
                                                                                                                                                                      Bhatia A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 62;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     55.6%; Score 5; DB 4; Lei
100.0%; Pred. No. 1.2e+02;
ive 0; Mismatches 0;
                                                                                                                                                                    Wang SS,
                                                                                                                                                  Mitcham JL, Wang co
                                                                                                                                                                                                                                                                                                                                                          Example 1; SEQ ID NO 5619; 1069pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ftp.wipo.int/pub/published_pct_sequences
                                                                                                                                                                                      L'maisonneuve J, Zhang Y, Jen S,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ABM40943 standard; protein; 62 AA.
                   20-APR-2001; 2001WO-US012865.
                                                      21-APR-2000; 2000US-0199047P.
                                                                        02-JUN-2000; 2000US-0208841P. 07-JUL-2000; 2000US-0216747P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      11-OCT-2002; 2002WO-US032727.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
                                                                                                                                                                  DH,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Propionibacterium acnes.
                                                                                                                                                                                                                                                                                                                       treating acne vulgaris.
                                                                                                                                                              Skeiky YAW, Persing
                                                                                                                                                                                                                         WPI; 2001-616774/71.
                                                                                                                             (CORI-) CORIXA CORP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8 VDDTF 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ø
                                                                                                                                                                                                                                             N-PSDB; AAS59522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WO2003033515-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 62 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2 VDDTF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         20-OCT-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   24-APR-2003.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ABM40943;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ABM40943
셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
```

Location/Qualifiers

```
Misc-difference
 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       요
                                                                                                                                                                                                                                                                           The invention relates to an isolated polymuclectide (ACF64435-ACF64733)
encoding a Propionibacterium acnes protein. The invention also relates to
encoding a Propionibacterium acnes protein. The invention also relates to
companie a probymuclectides. The invention
additionally encompasses expression vectors and host cells comprising a
companie of the invention, antibodies against polypeptides of the
invention, fusion proteins comprising a polypeptide of the invention; a
composition immune response specific for a P. acnes
invention, fusion proteins comprising a polypeptide of the invention; a
composition of comprising P. acnes polypeptides,
composition (comprising P. acnes polypeptides,
composition (comprising P. acnes polypeptides,
composition proteins, T cell populations, or
composition or determining the presence or absence of P. acnes in a
composition or determining the presence or absence of P. acnes in a
composition or determining the presence or absence of P. acnes in a
composition or antigen-presenting cells that express the
composition or antigen-presenting cells that express the
composition or antigen-presenting cells that express the
compositions, T cell populations or antigen-presenting cells that express the
compositions, or for stimulating an immune response specific for a P. acnes
composition of an immune response against P. acnes, or for treating acne
composition of an immune response against P. acnes, or for treating acne
composition of an immune response against P. acnes, or for treating accomposition frame) cand the kit is useful for performing a diagnostic assay. The present
composition of an immune response against P. acnes, or for treating accomposition frame) contained within the P. acnes polynucleotides of the
contained specification, but was obtained in electronic format directly
contained specification, but was obtained in electroni
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                       New Propionibacterium acnes polypeptides and polynucleotides encoding the polypeptide, useful for diagnosing, preventing or treating acne vulgaris, or for stimulating an immune response specific for a P. acnes protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     sesquiterpene synthase; cubebol synthase; GFTbsC; transformed plant cell;
farnesyl-pyrophosphate; valencene; bicyclo-germacrene; cubebol;
delta-cadine; perfumery; GFTpsA; GFTpsB; GFTpsD1; GFTpsD2; GFTpsE.
                                                                             Maisonneuve JL;
Jones R, Carter D;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  55.6%; Score 5; DB 6; Length 62; 100.0%; Pred. No. 1.2e+02; ive 0; Mismatches 0; Indels
                                                                            Bhatia A,
Benson DR,
                                                                                                                                                                                                                                                       Example 1; SEQ ID NO 5619; 1481pp; English
                                                                          Skeiky YAW, Persing DH, ng S, Jen S, Lodes MJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ADM97962 standard; peptide; 74 AA.
                                                                                            Zhang Y, Wang S, Jen S, Lod
Barth B, Vallieve-Douglass J;
              15-OCT-2001; 2001US-00978825.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity 100.
Matches 5; Conservative
                                              (CORI-) CORIXA CORP.
                                                                                                                                         WPI; 2003-381789/36.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ||||||
8 VDDTF 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Solanum tuberosum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ø
                                                                                                                                                        N-PSDB; ACF64451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 62 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Vetispiradiene.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2 VDDTF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-JUL-2004
                                                                            Mitcham JL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADM97962;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 49
ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             유
```

```
This sequence represents a peptide fragment from a sesquiterpene synthase, around residues 280-355. This peptide fragment was used in the production of degenerate primers for the isolation of sesquiterpene synthase coding sequences from grapefruit. The isolated sequences may be used in the production of sesquiterpene synthases by culturing a transformed plant cell in conditions conducive to the production of a sesquiterpene synthase of the invention are useful for converting farnesyl-pyrophosphate to various oxygenated and aliphatic sesquiterpenes, including valencene, bicyclo-germacrene, cubebol, delta-cadine. Sesquiterpene compounds are used in perfumery. A plant-independent system of production of sesquiterpene compounds would be of interest, to remove the price link to plant availability.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New sesquiterpene synthase, useful for converting famesyl-pyrophosphate to various oxygenated and aliphatic sesquiterpenes including valencene, bicyclogermacrene, cubebol, and delta-cadine.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       55.6%; Score 5; DB 8; Length 74; 100.0%; Pred. No. 1.4e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                        residues"
                                                                                                                                                                                                                                                                                                                                                         Misc-difference 42. .43
/note= "Conserved residues"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Misc-difference 63. .64
/note= "Conserved residues"
                                                    /note= "Conserved residues"
note= "Conserved residue"
                                                                                                                                                                 note= "Conserved residue"
                                                                                                                                                                                                                                                                                                                                     note= "Conserved residue"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      note= "Conserved residue"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     'note= "Conserved residue"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note= "Conserved residue"
                                                                                                                                                                                           Misc-difference 30. .31 /note= "Conserved
                                                                                                            'note= "Conserved
                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note= "Conserved
                                                                                                                                                                                                                                                                             'note= "Conserved
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Disclosure, Fig 4; 66pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      04-OCT-2002; 2002US-0415765P. 02-DEC-2002; 2002WO-IB005070.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    02-OCT-2003; 2003WO-IB005072.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5; Conservative
                       Misc-difference 11. .13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (FIRM ) FIRMENICH SA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 2004-330180/30.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Clark A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity
Matches 5; Conserv
                                                                               Misc-difference 26
                                                                                                                                      Misc-difference 28
                                                                                                                                                                                                                                                                                                       Misc-difference 35
                                                                                                                                                                                                                                                                                                                                                                                                                       Misc-difference 49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Misc-difference 67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Misc-difference 74
                                                                                                                                                                                                                                                   Misc-difference 33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WO2004031376-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 74 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VDDTF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2 VDDTF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            15-APR-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Schalk M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              62
```

```
sesquiterpene synthase; cubebol synthase; GFTbsC; transformed plant cell;
farnesyl-pyrophosphate; valencene; bicyclo-germacrene; cubebol;
delta-cadine; perfumery; GFTpsA; GFTpsB; GFTpsD1; GFTpsB2; GFTpsB.
aliphatic sesquiterpenes, including valencene, bicyclo-germacrene, cubebol, delta-cadine. Sesquiterpene compounds are used in perfumery. A plant-independent system of production of sesquiterpene compounds would be of interest, to remove the price link to plant availability.
                                                                                                                                                 Gaps
                                                                                                                                                 ö
                                                                                                                                                0; Indels
                                                                                                               Length 74;
                                                                                                                                  1.4e+02;
                                                                                                               55.6%; Score 5; DB 8; 100.0%; Pred. No. 1.4e+
                                                                                                                              100.0%; Pred. No. 1.9 ive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Misc-difference 42. .43
/note= "Conserved residues"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             note= "Conserved residue"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             note= "Conserved residue"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             note= "Conserved residue"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Conserved residue"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Location/Qualifiers
                                                                                                                                                                                                                                                                                              ADM97963 standard; peptide; 74 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note= "Conserved
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /note= "Conserved
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              'note= "Conserved
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              note= "Conserved
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              note= "Conserved
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              note= "Conserved
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 note= "Conserved
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                note= "Conserved
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               02-OCT-2003; 2003WO-IB005072.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                04-OCT-2002; 2002US-0415765P, 02-DEC-2002; 2002WO-IB005070.
                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note=
                                                                                            Ouery Match
Best Local Similarity
5, Conserv?
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (FIRM ) FIRMENICH SA.
                                                                                                                                                                                                                                                                                                                                                               (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Misc-difference 63.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Schalk M, Clark A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Hyoscyamus muticus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Misc-difference 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Misc-difference 35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Misc-difference 49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Misc-difference 11
                                                                                                                                                                                                             99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Misc-difference 74
                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Misc-difference 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Misc-difference
                                                                              Sequence 74 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WO2004031376-A2
                                                                                                                                                                              VDDTF
                                                                                                                                                                                                                                                                                                                                                                                                Vetispiradiene
                                                                                                                                                                                                                                                                                                                                                               01-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                15-APR-2004.
                                                                                                                                                                              N
                                                                                                                                                                                                               62
                                                                                                                                                                                                                                                                                                                              ADM97963;
                                                                                                                                                                                                                                                                              4DM97963
                                                                                                                                                                                                                                                             RESULT
                                                                                                                                                                                                             셤
8886888
                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                      sesquiterpene synthase; cubebol synthase; GFTbsC; transformed plant cell;
farnesyl-pyrophosphate; valencene; bicyclo-germacrene; cubebol;
delta-cadine; perfumery; GFTpsA; GFTpsB; GFTpsD1; GFTpsD2; GFTpsE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        This sequence represents a peptide fragment from a sesquiterpene synthase, around residues 280-355. This peptide fragment was used in the production of degenerate primers for the isolation of sesquiterpene synthase coding sequences from grapefruit. The isolated sequences may be used in the production of sesquiterpene synthases by culturing a transformed plant cell in conditions conductive to the production of a sesquiterpene synthases of the invention of a sesquiterpene synthases of the invention are useful for converting farnesyl-pyrophosphate to various oxygenated and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New sesquiterpene synthase, useful for converting famesyl-pyrophosphate to various oxygenated and aliphatic sesquiterpenes including valencene, bicyclogermacrene, cubebol, and delta-cadine.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          42. .43
/note= "Conserved residues"
                                                                                                                                                                                                                                                                                       note= "Conserved residue"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             residue"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note= "Conserved residue"
                                                                                                                                                                                                                                                          Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                            10. .31
'note= "Conserved
                           ADM97960 standard; peptide; 74 AA
                                                                                                                                                                                                                                                                                                                         'note= "Conserved
                                                                                                                                                                                                                                                                                                                                                                                          note= "Conserved
                                                                                                                                                                                                                                                                                                                                                                                                                                                            'note= "Conserved
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         'note= "Conserved
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        note= "Conserved
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           note= "Conserved
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          note= "Conserved
                                                                                                                                                                                                                                                                                                                                                          'note= "Conserved
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          'note= "Conserved
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Disclosure; Fig 4; 66pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         02-OCT-2003; 2003WO-IB005072
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         04-OCT-2002; 2002US-0415765P
02-DEC-2002; 2002WO-IB005070
                                                                                         (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (FIRM ) FIRMENICH SA
                                                                                                                           5-epi-Aristolochene.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 2004-330180/30.
                                                                                                                                                                                                                                                                                                      Misc-difference 11.
                                                                                                                                                                                                                                                                                                                                                                                                          Misc-difference 30.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Misc-difference 63.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Clark A;
                                                                                                                                                                                                                                                                                                                                                                           Misc-difference 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Misc-difference 42
                                                                                                                                                                                                                         Nicotiana tabacum.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Misc-difference 67
                                                                                                                                                                                                                                                                        Misc-difference
                                                                                                                                                                                                                                                                                                                                       Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WO2004031376-A2
                                                                                         01-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            15-APR-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Schalk M,
                                                          ADM97960;
```

Gaps

;

7

```
New nucleic acid encoding a patchoulol synthase or gamma-curcumene synthase or a polypeptide having sesquiterpene synthase activity, useful for making terpenoids used in perfumery, cosmetics and medicine.
                                         The present invention relates to patchoulol synthase, gamma-curcumene synthase and sesquiterpene synthase polypeptides and their encoding polymucleotides. The invention is useful for making terpenoids used in perfumery, cosmetics and medicine. The present sequence is the tobacco epi-aristolochene synthase protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The present invention relates to patchoulol synthase, gamma-curcumene synthase and sesquiterspene synthase polypoptides and their encoding polymucleotides. The invention is useful for making terpenoids used in perfumery, cosmetics and medicine. The present sequence is the potato
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9. .13
/note= "Region used to design primer TpsVF1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              30. .36
/note= "Region used to design primer TpsVF2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 63. .69
/note= "Region used to design primer TpsVR3"
                                                                                                                                                                                                                                            0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 55.6%; Score 5; DB 9; Length 74; Best Local Similarity 100.0%; Pred. No. 1.4e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                       Length 74;
                                                                                                                                                                                                                            1.4e+02;
                                                                                                                                                                                                       DB 9;
                                                                                                                                                                                                     Score 5; DB 9; Pred. No. 1.4e
      Example 7; SEQ ID NO 17; 75pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Potato vetispiradiene synthase protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Example 7; SEQ ID NO 19; 75pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Plant; enzyme; vetispiradiene synthase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Location/Qualifiers
                                                                                                                                                                                      55.6%; Scc...
100.0%; Pred
0; N
                                                                                                                                                                                                                                                                                                                                                                                                                             AEA51019 standard; protein; 74 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   vetispiradiene synthase protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            19-NOV-2004; 2004WO-IB003836.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   26-NOV-2003; 2003US-0525512P.
09-DEC-2003; 2003WO-IB006459.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (FIRM ) FIRMENICH SA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 2005-418005/42.
                                                                                                                                                                                                                        Local Similarity
nes 5; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Solanum tuberosum,
                                                                                                                                                                                                                                                                                                                           99
                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WO2005052163-A2
                                                                                                                                                                  Sequence 74 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 74 AA;
                                                                                                                                                                                                                                                                                    VDDTF
                                                                                                                                                                                                                                                                                                                         62 VDDTF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            11-AUG-2005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       09-JUN-2005
                                                                                                                                                                                                                                                                                      7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Schalk M;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AEA51019;
                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Region
                                                                                                                                                                                                                            Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                          AEA51019
                                                                                                                                                                                                                                                                                                                                                                                       RESULT
        ઠે
                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                       This sequence represents a peptide fragment from a sesquiterpene synthase, around residues 280-355. This peptide fragment was used in the production of degenerate primers for the isolation of sesquiterpene synthase coding sequences from grapefruit. The isolated sequences may be used in the production of sesquiterpene synthases by culturing a transformed plant cell in conditions conductive to the production of a sesquiterpene synthase. The sesquiterpene synthases of the invention are useful for converting farmesyl-pyrophosphate to various oxygenated and alighbatic sesquiterpenes, including valenceme, bicyclo-germacrene, cubebol, delta-cadine. Sesquiterpene compounds are used in perfumery. A plant-independent system of production of sesquiterpene compounds would be of interest, to remove the price link to plant availability.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       New nucleic acid encoding a patchoulol synthase or gamma-curcumene synthase or a polypeptide having sesquiterpene synthase activity, useful for making terpenoids used in perfumery, cosmetics and medicine.
                                       New sesquiterpene synthase, useful for converting famesyl-pyrophosphate to various oxygenated and aliphatic sesquiterpenes including valencene, bicyclogermacrene, cubebol, and delta-cadine.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö

    13
/note= "Region used to design primer TpsVF1"

    36
    note= "Region used to design primer TpsVF2"

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note= "Region used to design primer TpsVR3"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                55.6%; Score 5; DB 8; Length 74; 100.0%; Pred. No. 1.4e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Tobacco 5-epi-aristolochene synthase protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Plant; enzyme; 5-epi-aristolochene synthase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ź
                                                                                                                        Disclosure; Fig 4; 66pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AEA51017 standard; protein; 74
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       19-NOV-2004; 2004WO-IB003836.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             26-NOV-2003; 2003US-0525512P.
09-DEC-2003; 2003WO-IB006459.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity luv...
5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            69.
WPI; 2004-330180/30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 2005-418005/42.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Nicotiana tabacum.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FIRM ) FIRMENICH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WO2005052163-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 74 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2 VDDTF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  62 VDĎTF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     11-AUG-2005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                09-JUN-2005
```

AEA51017;

RESULT 52

ઠે 유 Region Region Region

ö

Gaps

ó,

Schalk M;

8 용

```
Ribosomal protein similar to FCWP1 #301.
ö
                                                                                                                                                                                                                                                                                                                                                                                   The present invention relates to patchoulol synthase, gamma-curcumene synthase and sesquiterpene synthase polypeptides and their encoding polymucleotides. The invention is useful for making terpenoids used in perfumery, cosmetics and medicine. The present sequence is the Hyoscyamus
                                                                                                                                                                                                                                                                                                                                     New nucleic acid encoding a patchoulol synthase or gamma-curcumene synthase or a polypeptide having sesquiterpene synthase activity, useful for making terpenoids used in perfumery, cosmetics and medicine.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                            .36 -
.e= "Region used to design primer TpsVF2"
                                                                                                                                                                                           63. .69
/note= "Region used to design primer TpsVR3"

    .13
    /note= "Region used to design primer TpsVF1"

                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 74;
                                                                                                       Hyoscyamus muticus vetispiradiene synthase protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                           .4e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                  55.6%; Score 5; DB 9
100.0%; Pred. No. 1.4
:ive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                   muticus vetispiradiene synthase protein.
                                                                                                                       Plant; enzyme; vetispiradiene synthase
                                                                                                                                                                                                                                                                                                                                                                     Example 7; SEQ ID NO 20; 75pp; English.
                                                                                                                                                      Location/Qualifiers
                                                         AEA51020 standard; protein; 74 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADC88085 standard; protein; 78 AA.
                                                                                                                                                                                                                                                  19-NOV-2004; 2004WO-IB003836
                                                                                                                                                                                                                                                                26-NOV-2003; 2003US-0525512P
                                                                                                                                                                                                                                                                         09-DEC-2003; 2003WO-IB006459
                                                                                       11-AUG-2005 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-JAN-2004 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity 10v..
5, Conservative
                                                                                                                                                                                      /note=
                                                                                                                                                                                                                                                                                       (FIRM ) FIRMENICH SA
                                                                                                                                                                                                                                                                                                                      WPI; 2005-418005/42.
                                                                                                                                       Hyoscyamus muticus.
                   99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |||||
62 VDDTF 66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2 VDDTF 6
                                                                                                                                                                                                                   WO2005052163-A2
                  VDDTF
                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 74 AA;
    2 VDDTF
                                                                                                                                                                                                                                  09-JUN-2005
                   62
                                                                         AEA51020;
                                                                                                                                                                                                                                                                                                       Schalk M;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ADC88085;
                                                                                                                                                             Region
                                                                                                                                                                             Region
                                                                                                                                                                                            Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 55
```

셤

```
The invention relates to an isolated antifungal ribosomal protein from fusarium culmorum, FCWP1. Also included is a fusion protein between the signal peptide of the antifungal protein AlyAPE from AlySesum and FCWP1, encoded by the nucleic acid appearing as ADC87758. The FCWP1 proteins are useful for controlling fungal infections in plante, such as those caused by Alternaria (e.g. Alternaria brasalcola, Alternaria solani), ascorbyta (e.g. Alternaria brasalcola, Alternaria solani), carcospora (e.g. Alternaria brasalcola, Alternaria solani), carcospora (e.g. Alternaria prasalcola, Alternaria solani), protein controlling fungal infections in plante, such as those caused by Alternaria (e.g. Alternaria brasalcola, Alternaria solani), carcospora (e.g. Accospora Kikuchii, Cercospora Zeaa-maydis), Collectrichum (e.g. Pusarium velem), planten collectrichum (e.g. Pusarium roseum), Plantinchosporium avacobnum, Helminthosporium acatorum, Phycophthora carbonum, Helminthosporium acatorum, Phycophthora phaseolila figiensis), Noctria (e.g. Mycosphaerella figiensis), Noctria (e.g. Mycosphaerella figiensis), Noctria (e.g. Mycophherea (e.g. Phycophthora megasperma (e.g. Phycophthora phaseoli, Phytophthora parasitica, Phytophthora citrophthora, Phytophthora megasperma (e.g. Phytophthora phaseoli, Phytophthora parasitica, Phytophthora citrophthora, Phytophthora megasperma (e.g. Phytophthora phaseoli, Phytophthora megasperma (e.g. Phytophthora phaseoli, Phytophthora avacorum, Phytophthora megasperma (e.g. Pytophthora megasperma (e.g. Pytotularia (e.g. Pytoularia arachidis), Phythum (e.g. Pythium (e.g. Pythium (e.g. Pythium (e.g. Pythium (e.g. Pythium (e.g. Septoria)), Alternaria avacobla (e.g
                               plant fungal infection, Alternaria, Ascochyta, Botrytis, Cercospora, Colletotrichum, Diplodia, Fusarium, Gaeumanomyces, Helminthosporium, Macrophomina, Wycosphaerealla, Nectrás, Perconospora, Phoma, Phyrophthora, Plasmopara, Podosphaera, Puccinia, Puthium, Pyrenophora, Pyricularia, Pythium, Rhizoctonia, Scerotium, Sclerotinia, Septoria, Thielaviopsis, Venturia, Verticillium.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Novel antifungal protein FCWP1, isolated from Fusarium culmorum, useful
protein; ribosomal protein; FCWP1; AlyAFP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ž
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Seale JW,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        for controlling fungal infections in plants
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ID NO 338; 27pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mittanck CA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (MONS ) MONSANTO TECHNOLOGY LLC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    99US-0169340P.
99US-0169513P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    07-DEC-2000; 2000US-00732210.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Bunkers GJ, Liang J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 2003-754558/71.
                                                                                                                                                                                                                                                                                                                                          Unidentified
                                                                                                                                                                                                                                                                                                                                                                                                                          US6573361-B1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    07-DEC-1999;
07-DEC-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               03-JUN-2003
```

```
Phytophthora phaseoli
                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ABG28513
  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             The invention relates to an isolated antifungal ribosomal protein from
fusarium culmorum, FCWP1. Also included is a fusion protein between the
signal peptide of the antifungal protein AlyAFP from Alyasum and FCWP1,
encoded by the nucleic acid appearing as ADC87758. The FCWP1 proteins are
cuseful for controlling fungal infections in plants, such as those caused
by Alternaria (e.g. Ascochyta piss); Botrytis (e.g. Botrytis cinerea ),
Cercospora (e.g. Ascochyta piss); Botrytis (e.g. Botrytis cinerea ),
Cercospora (e.g. Cercospora kikuchii, Cercospora zaea-maydis),
COlletotrichum (e.g. Colletotrichum lindemuthianum ), Diplodia (e.g.
Diplodia maydis); Pusarium (e.g. Fusarium solani, Fusarium
C Buarium graminearum, Fusarium culmorum, Fusarium solani, Fusarium
C Buarium graminearum, Halminthosporium (e.g. Helminthosporium turcicum
C, Helminthosporium carbonum, Helminthosporium maydis ), Macrophomina
C (e.g. Macrophomina phaseolina, Maganaporthe grisea ), Mycosphaerella
CC (e.g. Macrophomina figiensis), Nectria (Nectria heamatcococca),
C Peronospora (e.g. Peronospora manshurica, Peronospora tabacina), Phoma
C (e.g. Phoma betae), Phymacotrichum (e.g. Phymatotrichum omnivorum),
C Phytophthora (e.g. Phytophthora cinnamomi, Phytophthora cactorum)
                                                                                              ö
                                                                                                                                                                                                                                                                                                                      Antifungal protein; ribosomal protein; FCWPI; AlyAFP; plant fungal infection; Alternaria, Ascochyta; Botrytis; Cercospora; Colletotrichum; Diplodia; Pusarium; Gaeumanomyces; Helminthosporium; Macrophomina; Mycosphaerella; Nectria; Peronospora; Phoma; Phymatotrixichum; Phytophthora; Plasmopara; Podosphaera; Puccinia; Puthium; Pyrenophora; Pyricularia; Pythium; Mizoctonia; Serotium; Sclerotinia; Septoria; Thielaviopsis; Venticillium.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            protein FCWP1, isolated from Fusarium culmorum, useful
                                                                                              Gaps
                                                                                              ö
                                                                                           Indels
                                                                55.6%; Score 5; DB 7; Length 78; 100.0%; Pred. No. 1.5e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Wu YS;
electronic format directly from USPTO at segdata.uspto.gov/sequence.html?DocID=6573361B1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Seale JW,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          for controlling fungal infections in plants.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Example 21; SEQ ID NO 346; 27pp; English.
                                                                                                                                                                                                                                                                                              Ribosomal protein similar to FCWP1 #309.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mittanck CA,
                                                                                                                                                                                                               ADC88093 standard; protein; 80 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (MONS ) MONSANTO TECHNOLOGY LLC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              07-DEC-2000; 2000US-00732210.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        99US-0169340P.
                                                                                                                                                                                                                                                                   01-JAN-2004 (first entry)
                                                                                             5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Liang J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 2003-754558/71.
                                                                 Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                               31 KVDDT 35
                                                                                                                     1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Novel antifungal
                                        Sequence 78 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                            US6573361-B1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          07-DEC-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                 Unidentified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     07-DEC-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     03-JUN-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Bunkers GJ,
                                                                                                                                                                                                                                           ADC88093;
                                                                                                                                                                                     RESULT 56
SXXXX
                                                                                                                      8
                                                                                                                                               요
```

```
infestans), Plasmopara (e.g. Plasmopara is in the propertion of propertions propertions of the propertions of the propertions of the process 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        New isolated polynucleotide and encoded polypeptides, useful in diagnostics, forensics, gene mapping, identification of mutations responsible for genetic disorders or other traits and to assess
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human, chromosome mapping; gene mapping; gene therapy; forensic; food supplement; medical imaging; diagnostic; genetic disorder.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 7; Length 80;
Phytophthora parasitica,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         55.6%; Score 5; DB 7; Les
100.0%; Pred. No. 1.6e+02;
ative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           electronic format directly from USPTO at segdata.uspto.gov/sequence.html?DocID=6573361B1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 20; SEQ ID NO 58872; 103pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Novel human diagnostic protein #28504.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ABG28513 standard; protein; 109 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    30-MAR-2001; 2001WO-US008631.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 31-MAR-2000; 2000US-00540217.
23-AUG-2000; 2000US-00649167.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Tang YT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  18-FEB-2002 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Drmanac RT, Liu C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 2001-639362/73.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (HYSE-) HYSEQ INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ŋ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                31 KVDDT 35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                N-PSDB; AAS92700.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 80 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 KVDDT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WO200175067-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             biodiversity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  11-OCT-2001.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ABG28513;
```

```
The invention relates to isolated polymucleotide (I) and polypeptide (II) sequences. (I) is useful as hybridisation probes, polymerase chain reaction (PCR) primers, oligomers, and for chromosome and gene mapping, and in recombinant production of (II). The polymucleotides are also used in diagnostics as expressed sequence tags for identifying expressed consistent of in diagnostics as expressed sequence tags for identifying expressed consistent of the consistent of the consistent of activity of (II) or to treat disease states involving (II). (II) is useful for generating antibodies against it, detecting or quantitating a polypeptide in tissue, as molecular weight markers and as a food supplement. (II) and its binding partners are useful in medical imaging of sites expressing (II). (I) and (II) are useful for treating disorders of supplement. (II) and its binding partners are useful in medical imaging of sites expressing (II). (I) and (II) are useful for treating disorders of involving aberrant protein expression or biological activity. The polypeptide and polymucleotide sequences have applications in cidagencies, forensics, gene mapping, identification of mutations capponsible for genetic disorders or other traits to assess biodiversity and to produce other types of data and products dependent on DNA and cannon acid sequences. ABG0010-ABG30377 represent novel human diagnostic manno acid sequences of the invention. Note: The sequence data for this content did not appear in the printed specification, but was obtained in citywipo.int/pub/published_pct_sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               plant protectant; plant growth regulant; gene therapy; plant; recombinant DNA construct; physical array; plant breeding marker; cold tolerance; heat tolerance; drought tolerance; herbicide tolerance; extreme osmotic condition; pathogen tolerance; pest tolerance; growth rate; cell cycle pathway; disease resistance; galactomannan production; lignin production; plant growth regulator; yield; plant growth; plant development; seed oil; protein yield;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gapa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Cao Y;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         55.6%; Score 5; DB 4; Length 109; 100.0%; Pred. No. 2.1e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Tabaska JE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Plant full length insert polypeptide seqid 54778.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Screen SE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADX92114 standard; protein; 110 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Zhou Y, Kovalic DK,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              28-APR-2003; 2003US-00425114.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  06-MAY-1999; 99US-00304517.
05-NOV-2001; 2001US-00985678.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      21-APR-2005 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LIU J.
ZHOU Y.
KOVALIC D K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SCREEN S E.
TABASKA J E.
CAO Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 2004-180133/17.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 109 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |||||
85 VDDTF 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US2004034888-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2 VDDTF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Unidentified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        19-FEB-2004.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADX92114;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (TABA/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (FIM)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (KOVA/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (SCRE/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ZHOU/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Liu J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 58
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADX92114
                    ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          용
```

```
The invention describes a recombinant DNA construct comprising a polynucleotide consisting of a sequence encoding an amino acid sequence available in electronic form from the US patent office at the available in electronic form from the US patent office at the sequence. The sequence. The US patent of Sequence. The Tecombinant DNA construct is useful for plant breeding markers. The recombinant DNA construct is useful for improving plant tolerance to cold, heat, drought, heathicides, extreme osmotic conditions, pathogens or pests, for manipulating growth rate in plant cells by modification of the cell cycle pathway, for conferring increased resistance to plant disease, for producing galactomannan, conceased resistance in plant disease, for increased resistance to plant disease, for increasing the rate of homologous recombination in plants, for improving yield by modification of photosynthesis or carbohydrate, nitrogen or phosphorus use and/or uptake or by providing improved plant growth and development under at least one stress condition or for modifying seed oil or protein yield and/or content. This is the amino acid sequence of a plant full length insert in the recombinant DNA construct of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                     New recombinant DNA construct, useful for improving plant tolerance to cold, heat, drought, herbicides, extreme osmotic conditions, pathogens or pests, for conferring increased resistance to plant disease, or for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Otsuki T, Wakamatsu A, Sato H, Ishii S;
Hio Y, Otsuka K, Nagai K, Irie R, Tamechika I;
Otsuka M, Nagahari K, Masuho Y;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       New polynucleotides and polypeptides are useful in gene therapy, developing a diagnostic marker or medicines for regulating their expression and activity, or as a target of gene therapy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              55.6%; Score 5; DB 8; Length 110; 100.0%; Pred. No. 2.1e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      human; gene therapy; diagnostic marker; pharmaceutical.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human protein of the invention SEQ ID NO:4517.
                                                                                                                  Claim 1; SEQ ID NO 54778; 15pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ADM05832 standard; protein; 118 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (REAS-) RES ASSOC BIOTECHNOLOGY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                22-MAR-2002; 2002JP-00137785.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     12-APR-2002; 2002EP-00008400.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local Similarity 100.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            I, Sugiyama I, o J, Isono Y, H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 2003-723558/69.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ||||||
89 KVDDT 93
                                                                                improving yield.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 110 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  N-PSDB; ADM03389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EP1347046-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               24-SEP-2003.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         20-MAY-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Yamamoto J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Isogai T,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ADM05832;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Seki N,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADM05832
ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
```

Gaps

ö

```
AAW13921-W13928 represent the sequences for the heavy and light chains of the human monoclonal antibodies of the invention. The antibody of the invention preferably contains the sequence represented by AAW13912 in the complementarity determining region-1 (CPR-1) of the heavy chain variable region. The antibody of the invention also contains the sequence represented by AAW13913 in the CDR-3 of the light chain variable region. The antibody is capable of binding to adr type hepatitis B (HB) virus antigen. A human anti-HB virus monoclonal antibody preparation which is highly safe and is effective to adr type HB virus can be provided, using the monoclonal antibody. It can also be used as a vaccine against HB
                                                                                                                                                                                                                                                                                                                                                                                                                                Antibody; heavy chain; light chain; variable region; human; monoclonal; complementarity determining region; human; adr type hepatitis B virus; HB virus; CDR; virus antigen; anti-HB antibody; vaccine.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human anti-Hepatitis B antibody - used in a adr type HB virus vaccine.
    Length 118;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  55.6%; Score 5; DB 2; Length 119; 100.0%; Pred. No. 2.2e+02; ive 0; Mismatches 0; Indels
                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0; Indels
                                                   0
    55.6%; Score 5; DB 9; Lei
100.0%; Pred. No. 2.2e+02;
ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                        Heavy chain #2 for anti-HB virus antibody.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 8; Page 11-12; 20pp; Japanese.
                                                                                                                                                                                                                                                    AAW13923 standard; protein; 119 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAW11635 standard; protein; 126 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             95JP-00174752.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         95JP-00174752.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (ASAH ) ASAHI KASEI KOGYO KK.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          13-MAY-1997 (first entry)
                                                                                                                                                                                                                                                                                                                                          15-MAY-1997 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity luv...
5. Conservative
                                                   5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 1997-140911/13.
N-PSDB; AAT60118.
    Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                      30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ||||||
KVDDT 90
                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ŋ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 119 AA;
                                                                                                                                         DIFYY
                                                                                             DTFYY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KVDDT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    JP09020798-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        11-JUL-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         11-JUL-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   21-JAN-1997.
                                                                                                 4
                                                                                                                                                                                                                                                                                                AAW13923;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 infection
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAW11635;
                                                                                                                                      56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         98
                                                                                                                                                                                                          RESULT 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 62
                                                                                                                                                                                                                                   AAW13923
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAW11635
                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EXXXEX
                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Otsuki T, Wakamatsu A, Sato H, Ishii S;
Ho Y, Otsuka K, Nagai K, Irie R, Tamechika I;
Otsuka M, Nagahari K, Masuho Y;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The present invention relates to novel human cDNAs (AEC84246-AEC86688) encoding proteins AEC86689-AEC89131. The cDNAs are useful for analyzing the functions of the proteins, and for developing medicines for diseases e.g. osteoporosis, cancer, inflammation, gastritis, or gastroduodenal ulcer. Note: The sequence data for this parent did not form part of the printed specification but was obtained in electronic format directly from
                                         The invention relates to a novel human polynucleotide and the encoded bolygeptide. A polynucleotide of the invention may have a use in gene therapy. An oligonucleotide of the invention ADM06202-ADM06773 is useful as a primer for synthesizing the polynucleotide or as a probe for useful in gene therapy, for developing a diagnostic marker or medicines for regulating the polynucleotide The polynucleotides ADM01316-ADM03758 are useful in gene therapy, for developing a diagnostic marker or medicines for regulating their expression and activity, or as a target of gene therapy. The proteins ADM03759-ADM06201 encoded by the polynucleotides are useful as pharmaceutical agents. The present sequence represents a protein sequence of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Osteopathic, Cytostatic, Antiinflammatory, Gastrointestinal-Gen.; Antiulcer, Gene Therapy, Osteoporosis, cancer; inflammation, gastritis; stomach ulcer, gastrointestinal ulcer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            New full-length cDNA sequences, useful for treating diseases, e.g. osteoporosis, cancer, inflammation, gastritis, or gastroduodenal ulcer.
                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                          55.6%; Score 5; DB 7; Length 118; 100.0%; Pred. No. 2.2e+02;
                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human cDNA clone protein TEST120335200, SEQ ID 4517.
                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                      0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Example 3; SEQ ID NO 4517; 296pp; English.
Claim 1; SEQ ID NO 4517; 305pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AEC88762 standard; protein; 118 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Hio Y, Ote
Otsuka M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (REAS-) RES ASSOC BIOTECHNOLOGY.
                                                                                                                                                                                                                                                                                                                                                               100.08;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              12-APR-2002; 2004EP-00027348.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       22-MAR-2002; 2002JP-00137785.
12-APR-2002; 2002EP-00008400.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (first entry)
                                                                                                                                                                                                                                                                                                                                                            Best Local Similarity 100.
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sugiyama T,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Yamamoto J, Isono Y,
Seki N, Yoshikawa T,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2005-667421/69.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DYFYY 30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 2005-667421/
N-PSDB; AEC86319.
                                                                                                                                                                                                                                                                                                                                                                                                                                  4 DTFYY 8
                                                                                                                                                                                                                                                                                              Sequence 118 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 118 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EP1580263-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-DEC-2005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    28-SEP-2005
```

56

g

ð

9

Query Match

AEC88762;

Ношо

Isogai T,

Seki N,

ö

Gaps

; 0

```
RP-1 WH domains (AAW11634-37) of human monoclonal antibodies (hWAbs) RF-1 and RF-2, which show high affinity for respiratory syncytial virus (RSV) and RF-2, which show high affinity for respiratory syncytial virus (RSV) splenocytes in vitro; transferral of primed splenocytes to a SCID mouse; boosting with antigen; isolating human antibody-producing B-cells from boosting with antigen; isolating human antibody-producing B-cells from virus. DNA (see also AAT6128-39) encoding the RF-1 and RF-2 heavy and light variable domains can be incorporated into vectors (e.g. NEOSPLA) and used to transfect eukaryotic (e.g. CHO) cells (see also AAW11638-41) to provide a constant, stable supply of anti-RSV F-protein hWABs for use in the treatment or prevention of RSV infection. (N.B. Fig 7b is referred to as the RF-1 VH domain in the specification, but is identical to the RF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human monoclonal antibody specific for respiratory syncytial virus fusion protein - used for the prevention and treatment of RSV infection.
                            Monoclonal antibody; MAb; RF-1; RF-2; respiratory syncytial virus; RSV; fusion protein; P-protein; vaccine; immunotherapy; therapy; 
Epstein Barr virus; immortalisation; recombinant antibody.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Amino acid sequences were deduced for the RP-1 VL, RP-2 VH, RF-2 VL and
                                                                                                                                                                                                     "complementarity determining region 1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Newman RA
                                                                                                                                                                                                                                                                                              "complementarity determining region 2"
                                                                                                                                                                                                                                                                                                                                                                                   "complementarity determining region 3"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Walsh EE, Heard CJ,
Human anti-RSV monoclonal antibody RF-2 VH domain.
                                                                                                                                                             "framework region 1"
                                                                                                                                                                                                                                                   'note= "framework region 2"
                                                                                                                                                                                                                                                                                                                                         'note= "framework region 3"
                                                                                                                                                                                                                                                                                                                                                                                                                            /note= "framework region 4"
                                                                                                                    Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Example 6; Fig 7b; 85pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   96WO-US010070.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pan L,
                                                                                                                                                                               31. .37
/label= CDR1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               95US-00488376
                                                                                                                                                                                                                                                                               label= CDR2
                                                                                                                                                                                                                                                                                                           68. .99
/label= FR3
                                                                                                                                 .. .30
'label= FR1
                                                                                                                                                                                                                      38. .51
/label= FR2
                                                                                                                                                                                                                                                                                                                                                      100. .115
/label= CD
                                                                                                                                                                                                                                                                                                                                                                                   /note= "co
116. .126
                                                                                                                                                                         .37
                                                                                                                                                                                                                                                               .67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VH domain of Fig 11b)
                                                                                                                                                                                                                                                                                                                                                                                                                label=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (IDEC-) IDEC PHARM CORP.
                                                                                                                                                                note=
                                                                                                                                                                                                                                                                                                note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Chamat SS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 1997-099892/09.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 126 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 N-PSDB; AAT61237
                                                                                         Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  06-JUN-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             07-JUN-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                        WO9640252-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     19-DEC-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Brams P,
                                                                                                                                Region
                                                                                                                                                                            Region
                                                                                                                                                                                                                      Region
                                                                                                                                                                                                                                                                Region
                                                                                                                                                                                                                                                                                                            Region
                                                                                                                                                                                                                                                                                                                                                      Region
                                                                                                                                                                                                                                                                                                                                                                                                 Region
```

```
The invention describes an isolated DNA molecule encoding a fusion protein consisting of 4 different functional domains selected from glucan association domain (GLASS), linker domain (LINRS), glucosyl transferase domain (GLATR), and C-terminal end (CTEND) which are operably linked to come another. The DNA molecule is useful for expressing in plants polypeptides including starch synthase enzymes as fusion proteins with improved affinity to starch and modified catalytic capabilities and to the in vivo and in vitro synthesis of glucan chains of modified lengths as compared to plants producing native starch produced with cative starch synthases. Expression of the starch synthase fusion proteins along with granule bound starch synthase (GBSS) will lead to a modified starch having an altered or improved morphology, terrogradation, waterbinding, or swelling potential of the granules, gel strength dhesiveness, cohesiveness, hardness, elasticity, increased or decreased companion and increased or decreased glucan chain lengths. This is the amino acid sequence of a starch synthase functional domain associated
                                                                                                                                                                                                                                                                    Starch; starch synthase; glucan association domain; GLASS; linker domain;
LINKR; glucosyl transferase domain; GLYTR; C-terminal end; CTEND;
granule bound starch synthase; GBSS; morphology; retrogradation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New DNA encoding fusion protein consisting of 4 different functional domains selected from glucan association domain, linker domain, glucosyl transferase domain, and C-terminal end, useful for producing modified
                                                                                                                                                                                                                              Maize Starch synthase III (SSIII) LINKR domain related protein #24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Guan H;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gao Z,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Commuri P, Keeling PL, Ramirez N, Mckean A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim 19; Page 203-210; 265pp; English.
                                                                                                             ABU07100 standard; protein; 127 AA
                                                                                                                                                                                                                                                                                                                               waterbinding, swelling potential
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       29-MAR-2002; 2002WO-US009574.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             30-MAR-2001; 2001US-0279720P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (BADI ) BASF PLANT SCI GMBH.
                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 2003-040678/03.
                  61
DDTFY
                                                                                                                                                                                                                                                                                                                                                                                                          WO200279410-A2
                                                                                                                                                                                                                                                                                                                                                                   Unidentified
                                                                                                                                                                                        17-FEB-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                10-OCT-2002.
                                                                                                                                                   ABU07100;
                  57
```

Gaps ö 6; Length 127; 0; Indels DB 6; Ler 55.6%; Score 5; DB 6 100.0%; Pred. No. 2.4 ive 0; Mismatches 5; Conservative Best Local Similarity DDTFY 3 DDTFY Query Match Matches ò

Sequence 127 AA;

ö

RESULT 64

88

84

셤

ö

Gaps ö

55.6%; Score 5; DB 2; Length 126; 100.0%; Pred. No. 2.4e+02; ive 0; Mismatches 0; Indels

5; Conservative

Query Match Best Local Similarity Matches 5; Conserv

```
Apis cerana phospholipase A2 protein.
             10-DEC-2002 (first entry)
  The invention relates to a composition comprising an isolated human antibody or its fragment or other variant, where the antibody, the fragment or the other variant specifically binds to an asparty!

(asparaginyl) beta-hydroxylase (AAH). The invention also relates to an isolated nucleic acid molecule comprising a sequence encoding a human cisolated nucleic acid molecule comprising a sequence encoding a human critically binds to human AAH (HAAH), an expression vector comprising the nucleic acid molecule, a host cell comprising the expression vector, a method of modulating an AAH activity in a cell, a method of treating a patient who has a cancer associated with overactive or over expressed AAH, a method for identifying an antibody or its fragment or other variant that specifically binds to an AAH and method of making a human monoclonal antibody or its fragment or other variant that specifically binds to an AAH. The composition, antibody, nucleic acid, kit and methods are useful for diagnosing or treating cancer, where the cancer cell is a tumor cell of the lung, liver, colon, pancreas, prostate, ovary, bile duct, brain or breast. This sequence represents an anti-HAAH antibody variable region used in the scope of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                Antibody therapy; aspartyl (asparaginyl) beta-hydroxylase; AAH; HAAH; cancer; neoplasm; lung tumor; liver tumor; colon tumor; pancreas tumor; prostate tumor; ovary tumor; brain tumor; breast tumor; cytostatic; antibody; heavy chain variable region.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                           useful for
                                                                                                                                                                                                                                                                                                                                                                                                      New composition comprising anti-hydroxylase antibodies, useful for diagnosing or treating cancer, e.g. lung, liver, colon, pancreas, prostate, ovary, bile duct, brain, or breast cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           55.6%; Score 5; DB 9; Length 128; 100.0%; Pred. No. 2.4e+02; ive 0; Mismatches 0; Indels
                                                                                        Anti-HAAH antibody heavy chain variable region #6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Disclosure; SEQ ID NO 11; 107pp; English.
                                                                                                                                                                                                                                                                                                                            (MASI ) MASSACHUSETTS INST TECHNOLOGY.
            AEA24151 standard; protein; 128 AA
                                                                                                                                                                                                                                                            15-NOV-2004; 2004WO-US038197.
                                                                                                                                                                                                                                                                                     14-NOV-2003; 2003US-0520114P.
19-APR-2004; 2004US-0563514P.
                                                              11-AUG-2005 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity 100...
                                                                                                                                                                                                                                                                                                                                                     Wittrup DK, Yeung YA;
                                                                                                                                                                                                                                                                                                                                                                               WPI; 2005-417728/42.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ហ
                                                                                                                                                                                                         WO2005049802-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 128 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 KVDDT
                                                                                                                                                                                  Homo sapiens
                                                                                                                                                                                                                                    02-JUN-2005
                                      AEA24151;
AEA24151
            ઠ
```

```
This invention relates to a novel ordered and repetitive antigen array used in the production of vaccines for infectious diseases. The invention also discloses a composition comprising a non-natural molecular scaffold comprising a core particle selected from a core particle of a non-natural comprising a core particle of natural origin and an organiser comprising at least one first attachment site, where the organiser is connected to the core particle by at least one covalent bond. Also disclosed is an antigen or antigenic determinant with at least one second attachment is antigen or antigenic determinant with at least one second attachment (Abetal-42) or its fragment and where the second attachment site is selected from an attachment site not naturally occurring with the antigen or antigenic determinant, where the second attachment site is selected from an attachment site not naturally occurring with the antigen or antigenic determinant, where the second attachment site is capable of association through at least one non-peptide bond to the first attachment site and where the antigen or antigenic determinant and the scaffold interact through the association to form an ordered and capable of forming a capsid which comprises mutant obeta coat proteins capable of forming a capsid which comprises mutant obeta coat proteins thilly defined in the specification. The compounds of the invention may capital with the second stream of the invention may the compounds of the invention may the compounds of the invention may
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Molecular antigen array used in the production of vaccines for infectious
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          have antimicrobial, antiallergic, immunomodulatory, cytostatic, antiviral, antidiabetic, or hypoglycaemic activities and may be used in immunisation and as a vaccine. The present sequence represents a protein sequence used to create the compositions of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
Human; mouse; rat; antimicrobial; antiallergic; immunomodulatory; cytostatic; antiviral; antidiabetic; hypoglycaemic; antigen array; vaccine; infectious disease; honeybee.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sebbel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Maurer P, Lechner F,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          55.6%; Score 5; DB 5; Length 134; 100.0%; Pred. No. 2.5e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim 161; Page 386; 441pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Tissot A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (CYTO-) CYTOS BIOTECHNOLOGY AG
                                                                                                                                                                                                                                                                                                                                                                                                                                                           21-JAN-2002; 2002WO-IB000166.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  19-JAN-2001; 2001US-0262379P.
04-MAY-2001; 2001US-028849P.
05-OCT-2001; 2001US-0331045P.
07-NOV-2001; 2001US-0331045P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Bachmann M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 2002-627351/67.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DDTFY 68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3 DDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 134 AA;
                                                                                                                                                                                                                                                                                            WO200256905-A2.
                                                                                                                                                                       Apis cerana.
                                                                                                                                                                                                                                                                                                                                                                       25-JUL-2002,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Renner WA,
Piossek C;
                                                                                                                                                                                                                 Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         diseases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
```

RESULT 66 ABG80557

ABG94245 standard; protein; 134 AA.

RESULT 65 ABG94245 ABG94245;

. |||||| 87 KVDDT 91

셤

Gaps

ö

```
WPI; 2002-636514/68
                                      WO200256907-A2.
      29-NOV-2002
                                   Apis cerana.
                                          25-JUL-2002
   ABG80557;
                                                                                     diseases.
                                                          (CYTO-)
                                                                     (STAU/)
(FREY/)
                                                            (NOVS )
                                                                            Renner
                                                                          Maurer
                                                               LECH/
                                                                 (ORTM/)
                                                                   LUEO/
```

MAURER P.

FREY P

```
The invention discloses a composition comprising two or more isolated rat or human polymuclectides or a polymucleotide which represents a fragment, derivative or allelic variation of the nucleic acid sequence. Also claimed are a vector comprising the novel polymucleotide, a host cell comprising the vector, a method for identifying a nucleotide sequence which is differentially regulated in an animal subjected to pain and a kit to perform the method, an array, a method for identifying an agent that increases or decreases the expression of the polymucleotide sequence that is differentially expressed in neuronal tissue of a first animal subjected to pain, a method for identifying a compound which regulates the expression of a polymucleotide sequence which is differentially expressed in an animal subjected to pain, a method for identifying a compound that regulates the activity of one or more of the polymucleotides, a method for producing a pharmaceutical composition, a
                                    gravis, immunoproliferative disease lymphadenopathy, and and solutions of arthritis, diabetes, multiple sclerosis, Alzheimer's disease, osteoporosis and infectious diseases. The present sequence is an antigen for use in the array of the invention. The antigen is modified to posses a cleavage site (enterowinase or factor Xs) and a Cysteiner containing North Cereminal linker peptide which serves as the attachment point to a virus like particle or bacterial protein (the scaffold protein)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Rat; pain; neuronal tissue; gene therapy; spinal segmental nerve injury; chronic constriction injury; CCI; spared nerve injury; SNI; Chung.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       New composition comprising two or more isolated polypeptides, useful for preparing a medicament for treating pain in an animal.
                   systemic lupus erythematosus, inflammatory immune diseases, myasthenia
                                                                                                                                                                                                                                                                                                                                          DB 5; Length 134; 2.5e+02;
                                                                                                                                                                                                                                                                                                                                                                                                  0; Indels
                                                                                                                                                                                                                                                                                                                                       55.6%; Score 5; DB 5
100.0%; Pred. No. 2.5
live 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Costigan M;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADE62328 standard; protein; 138 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Rat Protein P51673, SEQ ID NO 8257.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Befort K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim 1; Page; 1017pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      14-AUG-2002; 2002WO-US025765.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        14-AUG-2001; 2001US-0312147P.
01-NOV-2001; 2001US-0346382P.
26-NOV-2001; 2001US-0333347P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                29-JAN-2004 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (GEHO ) GEN HOSPITAL CORP.
(FARB ) BAYER AG.
                                                                                                                                                                                                                                                                                                                                                                                             5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Woolf C, D'urso D,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 2003-268312/26.
                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ||||||
DDTFY 68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Rattus norvegicus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                  3 DDTFY 7
                                                                                                                                                                                                                                                                                     Sequence 134 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GENBANK; P51673.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WO2003016475-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   27-FEB-2003.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADE62328;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       64
                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ADE62328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT
                8866666666688888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         The invention relates to a composition comprising: (a) a non-natural molecular scaffold comprising: (i) a core particle selected from: (1) a core particle of a non-natural origin; and (2) a core particle of natural origin; and (ii) an organiser comprising at least one first attachment site, where the organiser is connected to the core particle by at least one covalent bond; (b) an antigen or antigenic determinant with at least one scoond attachment site, where the antigen or antigenic determinant is amyloid beta peptide (Abeta 1-42) or its fragment, and where the second attachment site is selected from: (i) an attachment site naturally occurring with the antigen or antigenic determinant, where the second attachment site is capable of association cattachment site attachment site account attachment site is capable of association through at least one non-peptide bond to the first attachment site; and where the antigen or antigenic determinant and the scaffold interact converted and repetitive antigen array. The composition is used in converted and repetitive antigen array. The composition is used in the immunisation and as a vaccine for diseases such as influenza, graft or immunisation and as a vaccine for diseases such as influenza, graft respiratory distress syndrome (ARDS), Crohn's disease, allergic asthma, acute lymphoblastic leukaemia, non-Hodgkin's lymphoma, Grave's disease,
                                                                                                                                                                                                               Molecular antigen array; vaccine; antigen; antimicrobial; molecular scaffold; amyloid beta; Abeta 1-42; influenza; graft versus host disease; IgE-mediated allergic reaction; anaphylaxis; adult respiratory distress syndrome; ARDS; Crohn's disease; allergic asthma; acute lymphoblastic leukaemia; non-Hodgkin's lymphoma; Grave's disease; systemic lupus erythematosus; osteoporosis; inflammatory immune disease; myasthenia gravis; multiple sclerosis; immunoproliferative disease lymphadenopathy; Alzheimer's disease; angioimmunoproliferative lymphadenopathy; immunoblastive lymphadenopathy; rheumicid arthritis; diabetes; inflectious disease; factor Xa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Molecular antigen array used in the production of vaccines for infectious
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Frey
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Staufenbiel M,
Piossek C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Lueoend R,
Sebbel P,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            enterokinase; cysteine-containing linker.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Disclosure; Page 363-364; 418pp; English.
ABG80557 standard; protein; 134 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ortmann R,
, Tissot A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CYTOS BIOTECHNOLOGY AG.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              19-JAN-2001; 2001US-0262379P.
04-MAY-2001; 2001US-0288549P.
05-OCT-2001; 2001US-032699PP.
07-NOV-2001; 2001US-0331045P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           21-JAN-2002; 2002WO-IB000168.
                                                                                                                (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NOVARTIS PHARMA AG
                                                                                                                                                                  Bee phospholipase A2 #4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Bachmann M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LUEOEND R.
STAUFENBIEL M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Lechner F,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LECHNER F.
ORTMANN R.
LUEOEND R.
```

```
ö
method for identifying a compound or small molecule that regulates the activity in an animal of one or more of the polypeptides given in the specification, a method for identifying a compound useful in treating pain and a pharmaceutical composition comprising the one or more polypeptides or their antibodies. The polymucleotide or the compound that modulates its activity is useful for preparing a medicament for treating pain (e.g. spinal segmental nerve injury (Chung), chronic constriction injury (CCI) and spared nerve injury (SNI)) in an animal (e.g. gene therapy). The sequence presented is a rat protein (shown in Table 2 of the specification) which is differentially expressed during pain. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic form directly from WIPO at
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Human; G protein-coupled receptor; nGPCR-x; antiviral; analgesic; cytostatic; cardiant; antidiabetic; ancretic; hypotensive; hypertensive; antiparkinsonian; noctropic; neuroprotective; antidepressant; viral infection; HIV-1; human immunodeficiency virus; HIV-2; pain; cancer; metabolic disease; cardiovascular disease; type 2 diabetes; obesity; anorexia; hypotension; hypertension; myocardial infarction; atherosclerosis; Parkinson's disease; psychosis; neurological disorder; schizophrenia; migraine; major depression; anxiety; mental disorder; manic depression; dyskinesia; Huntington's disease; Tourette's Syndrome.
                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                 ;
0
                                                                                                                                                                                                                                                                                          55.6%; Score 5; DB 7; Length 138; 100.0%; Pred. No. 2.6e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human G protein-coupled receptor nGPCR-2310.
                                                                                                                                                                                                                      ftp.wipo.int/pub/published_pct_sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAU19377 standard; protein; 146 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  08-MAR-2000; 2000US-0187583P.
08-MAR-2000; 2000US-0187584P.
08-MAR-2000; 2000US-0187639P.
08-MAR-2000; 2000US-0187640P.
08-MAR-2000; 2000US-0187707P.
08-MAR-2000; 2000US-0187709P.
08-MAR-2000; 2000US-0187709P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (PHAA ) PHARMACIA & UPJOHN CO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  08-MAR 2000; 2000US-0188293P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    08-MAR-2001; 2001WO-US007370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 08-MAR-2000; 2000US-0188290P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2000US-0188292P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (first entry)
                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity 100.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 2001-536779/59.
                                                                                                                                                                                                                                                                                                                                                                                                   52
                                                                                                                                                                                                                                                                                                                                                                ^
                                                                                                                                                                                                                                                         Sequence 138 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      N-PSDB; AAS30949
                                                                                                                                                                                                                                                                                                                                                                3 DDTFY
                                                                                                                                                                                                                                                                                                                                                                                                   48 DDTFY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WO200166751-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             04-DEC-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 13-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAU19377;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Vogeli G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 68
         셤
```

```
ö
                                                                                                                                    The invention relates to novel isolated nucleic acid molecules encoding G protein-coupled receptors termed nGPCR-x. nGPCR-x polynucleotides, polypeptides, and mcdulators may be used in the treatment of diseases and conditions such as infections, such as viral infections caused by HIV-1 (human immunodeficiency virus) or HIV-2, pain, cancers, metabolic and cardiovascular diseases and disorders (e.g., type 2 diabetes, obesity, annexai, hypotension, hypertension, myocardial infarction, atherosclerosis), Parkinson's disease, and psychotic and neurological disorders, including schizophrenia, migraine, major depression, anxiety, mental disorder, manic depression, and dyskinesias, such as Huntington's disease or Tourette's Syndrome and many other diseases and syndromes listed in the specification. nGPCR-x polynucleotides and polypeptides, well as nGPCR-x modulators, may also be used in diagnostic assays for such diseases or conditions. The present sequence represents a G protein-
Isolated nucleic acid molecules encoding G protein-coupled receptors termed nGPCR-x, useful in the treatment and diagnosis of viral infections, cancers and mental disorders (e.g. Parkinson's disease and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Colon cancer associated gene sequences, referred to as colon cancer antigens, useful for the treatment, prevention, and diagnosis of colon disorders such as colon cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                identification, cytostatic; cardioactive; neuroprotective; vulnerary; immunomodulatory; muscular; gynaecological; gastrointestinal; nephrotropic, antiinfective; antibacterial; gene therapy; wound; neural disorder; immune system disorder; muscular disorder; reproductive disorder; gastrointestinal disorder; reproductive disorder; antionestinal disorder; renal disorder; infectious disease; cardiovascular disorder.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human; colon cancer; colon cancer antigen; diagnosis; detection;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human colon cancer antigen protein sequence SEQ ID NO:1236.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 146;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    55.6%; Score 5; DB 4; Length 146; 100.0%; Pred. No. 2.7e+02; ive 0; Mismatches 0; Indels
                                                                                                   Claim 31; Page 269; 292pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAB53696 standard; protein; 152 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                       coupled receptor of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   08-MAR-2000; 2000WO-US005883.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (HUMA-) HUMAN GENOME SCI INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       09-MAR-2001 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Rosen CA, Ruben SM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2000-587534/55.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DTFYY 36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                N-PSDB; AAC98453.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DTFYY 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 146 AA;
                                                           schizophrenia).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WO200055351-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      12-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           21-SEP-2000.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAB53696;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 6
  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
```

```
(first entry)
                                                                        Similarity 100.5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Famodu OO, Kinney AJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (FAMO/) FAMODU O O.
(KINN/) KINNEY A J.
(RAFA/) RAFALSKI J A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 2003-898656/82.
                                                                                                                                             128 KVDDT 132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  128 KVDDT 132
                                                                                                                    Ŋ
                                  Sequence 157 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               N-PSDB; ADJ26812
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 157 AA;
                                                                                                                                                                                                                                                                                                                                                                                                    US2003177523-A1.
                                                                                                                    1 KVDDT
                                                                                                                                                                                                                                                                         20-MAY-2004
                                                                                                                                                                                                                                                                                                                                                                                                                             18-SEP-2003.
        b.pk0008.g2
                                                          Query Match
Best Local S
                                                                                                                                                                                                                                             ADJ26813;
                                                                                                                                                                                                                                                                                                                                                                          Zea mays.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 72
ABB70518
                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                        RESULT 71
                                                                                                                    ઠે
                                                                                                                                             셤
                                                                                                                                                                                                                                 셤
                        AAC97991 to AAC98763 encode the human colon cancer associated proteins, called human colon cancer antigens, given in AAB53234 to AAB54006. The human colon cancer antigens can have cytostatic, cardioactive, muscular; neuroprotective, immunomodulatory, gynaecological, gastrointestinal, vulnerary, nephrotropic, antiinfective and antibacterial activities, and can be used in gene therapy. The colon cancer antigen polymucleotides, proteins and antibodies to the proteins are useful for the prevention, treatment and diagnosis of colon disorders, such as colon cancer. The polymucleotides may be used in diagnostics and research, such as for chromosome identification, and as hybridisation probes. The proteins may also be used to prevent diseases such as neural disorders, immune system disorders, muscular disorders, reproductive disorders, immune system disorders, wounds, renal disorders, infectious diseases, and addisorders action and AAB54007 represent sequences used in the exemplification of the present invention
                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The present invention relates to an isolated polynucleotide encoding a phosphatidylethanolamine N-methyltransferase (BC 2.1.1.17) biosynthetic enzyme. The invention is useful in creating transgenic plants in which the polypeptides are present at higher or lower levels than normal cell types. The invention is also useful as probes for genetically and physically mapping the genes. The present sequence is corn phosphoethanolamine cytidyltransferase (BC 2.7.7.41) protein from clone cc71se-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Phosphatidylethanolamine N-methyltransferase; BC 2.1.1.17; transgenic; enzyme; transgenic plant; phosphoethanolamine cytidyltransferase; corn; BC 2.7.7.41.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  New isolated polynucleotide encoding a phosphatidylethanolamine N-methyltransferase biosynthetic enzyme, useful for creating transgenic plants, as probes for genetic mapping or as a genetic marker.
                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                 55.6%; Score 5; DB 3; Length 152; 100.0%; Pred. No. 2.8e+02; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Corn phosphoethanolamine cytidyltransferase protein.
Claim 11; Page 1823-1824; 2104pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (DUPO ) DU PONT DE NEMOURS & CO E I.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Rafalski JA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Example 3; Col 29-30; 28pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                       AAE39932 standard; protein; 157 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               22-SEP-2000; 2000US-00668262.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99US-0155626P.
                                                                                                                                                                                                                                                                   Query Match
Beet Local Similarity 10v.v
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pamodu OO, Kinney AJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 2003-615553/58.
                                                                                                                                                                                                                                                                                                                                                          55 DDTFY 59
                                                                                                                                                                                                                                                                                                                                          ~
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         N-PSDB; AAD60656
                                                                                                                                                                                                                                                       Sequence 152 AA;
                                                                                                                                                                                                                                                                                                                                          3 DDTFY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US6596926-B1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         23-SEP-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               15-JAN-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   22-JUL-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAE39932;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Zea mays
                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 70
                                                                                                                                                                                                                                                                                                                                                                                                                            AAE39932
  ò
                                                                                                                                                                                                                                                                                                                                                                   셤
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Phosphatidylcholine biosynthesis; PC; protein synthesis; gene expression; herbicide; phosphoethanolamine cytidylyl transferase; corn; enzyme.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New phosphatidylcholine biosynthetic enzyme polypeptide, useful for studying protein synthesis in plants, for manipulating gene expression or for providing possible target for herbicides.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The present invention relates to novel phosphatidylcholine (PC) blosynthetic enzymes and polymucleotides encoding such proteins. The nucleic acid sequences of the invention are useful for studying protein synthesis in plants, for manipulating gene expression or for providing possible target for herbicides. The present sequence is corn phosphochhanolamine cytidyly transferase, a phosphatidylcholine biosynthetic enzyme of the invention.
                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gapa
                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Corn phosphoethanolamine cytidylyl transferase protein #1.
      Length 157;
                                                          0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 157;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0; Indels
   DB 7; Le
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 7; Le
55.6%; Score 5; DB 7
100.0%; Pred. No. 2.9
:ive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     55.6%; Score 5; DB 7
100.0%; Pred. No. 2.9
ive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim 10; SEQ ID NO 2; 30pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Rafalski JA;
                                                                                                                                                                                                                                                                                                                       ADJ26813 standard; protein; 157 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-MAY-2003; 2003US-00427442
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       23-SEP-1999; 99US-0155626P, 22-SEP-2000; 2000US-00668262
```

```
23-MAR-2001; 2001WO-US009231.
                                                                                                                                                                                                      N-PSDB; AAT88868
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 166 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WO200171042-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   pharmaceutical
                                                                                                                                                    (AMGE-) AMGEN
                                                                       WO9732022-A2
                                                                                                              28-FEB-1997;
                                                                                                                                 01-MAR-1996;
                                                                                          04-SEP-1997.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  26-MAR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Drosophila;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            27-SEP-2001
                                                                                                                                                                         Hernday N;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ABB70366;
                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
             Key
Protein
                                          Protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 74
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ABB70366
   à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ô
                                                                                                                                                                                                                                                                                                                                                                  18
                                                                                                                                                                                                                                                                                                                                                   The invention relates to an isolated nucleic acid detection reagent capable of detecting 1000 or more genes from Drosophila. The invention useful in developmental biology and in elucidating cell signalling and cell-cell interactions in higher eukaryotes for the development of insecticides, therapeutics and pharmaceutical drugs. The invention discloses genomic DNA sequences (ABL16176-ABL30511), expressed DNA sequences (ABL16176-ABL30511), expressed DNA ABR2072). The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences
                                                                                                                                                                                                                                                                                           New isolated nucleic acid detection reagent for detecting 1000 or more genes from Drosophila and for elucidating cell signaling and cell-cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Canine obese protein; OB protein; body fat reduction; dog; obesity; type II diabetes; elevated blood lipid level; lean body mass; insulin sensitivity; osteoporosis.
                                                                               Drosophila; developmental biology; cell signalling; insecticide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                   Disclosure; SEQ ID NO 38346; 21pp + Sequence Listing; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 4; Length 159; 2.9e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Canine obese protein (OB protein) variant lacking Gln28.
                                                            Drosophila melanogaster polypeptide SEQ ID NO 38346.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    55.6%; Score 5; DB 4
100.0%; Pred. No. 2.9
ive 0; Mismatches
                                                                                                                                                                                                                                           Myers EW;
  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAW31742 standard; protein; 166 AA
ABB70518 standard; protein; 159
                                                                                                                                                                                                                                            Li PWD,
                                                                                                                                                                      23-MAR-2001; 2001WO-US009231.
                                                                                                                                                                                          23-MAR-2000; 2000US-0191637P.
11-JUL-2000; 2000US-00614150.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Cuery Match
Best Local Similarity 100.uv
Cahen 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                                       (first entry)
                                                                                                            Drosophila melanogaster.
                                                                                                                                                                                                                                           Venter JC, Adams M,
                                                                                                                                                                                                                                                               WPI; 2001-656860/75
                                                                                                                                                                                                                        (PEKE ) PE CORP NY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              KVDDT 57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ß
                                                                                                                                                                                                                                                                        N-PSDB; ABL14621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 159 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KVDDT
                                                                                                                               WO200171042-A2
                                                                                         pharmaceutical
                                                                                                                                                                                                                                                                                                               interactions.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       26-MAR-1998
                                        26-MAR-2002
                                                                                                                                                   27-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Synthetic.
Canis sp.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAW31742;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               53
                    ABB70518
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAW31742
 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SSXXXXXXXXXXXXXXX
```

```
The present sequence represents a canine obese (OB) protein variant which lacks Gln28, with respect to the full length sequence (AAW31741). A variant which possesses a N-terminal Met residue in place of the leader sequence (AAW317096) also exists. The OB protein activity results in a decrease in body fat. The canine OB protein can be used for treating dogs who suffer from, e.g. obesity, type II diabetes, elevated blood lipid levels, or to increase lean body mass. They can also be used for e.g. increasing insulin sensitivity, increasing red blood cells (and oxygenation in the blood) and decreasing bone resorption or osteoporosis. The products can also be used for diagnostic purposes, e.g. for characterising or detecting defects in canine OB genes or gene products. note: this sequence does not appear in the specification; it was created
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     New isolated canine obese (OB) protein and related DNA - used to develop products for treating dogs for e.g. obesity, type II diabetes, elevated blood lipid levels or for increasing lean body mass.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   developmental biology; cell signalling; insecticide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 55.6%; Score 5; DB 2; Length 166; 100.0%; Pred. No. 3e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Drosophila melanogaster polypeptide SEQ ID NO 37890.
                                           1. .21
/label=_leader_sequence
                                                                                                               22. .166
/label= mature_peptide
location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ABB70366 standard; protein; 170 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 1; Page; 44pp; English.
                                                                                                                                                                                                                                                                                                                                                                                        97WO-US003209
                                                                                                                                                                                                                                                                                                                                                                                                                                                               96US-00609408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          using information provided
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Drosophila melanogaster.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 1997-448690/41.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               26 kvbbr 30
```

χ, Cao

```
The invention describes a recombinant DNA construct comprising a polynucleotide consisting of a sequence encoding an amino acid sequence available in electronic form from the US patent office at available in electronic form from the US patent office at trip. seqdata uspto.gov/sequence.html?DocID:2004034888. The polynucleotide of the invention are also useful in physical arrays of molecules and as plant breeding markers. The recombinant DNA construct is useful for improving plant tolerance to cold, heat, drought, herbicides, extreme osmotic conditions, pathogens or pests, for manipulating growth rate in plant cells by modification of the cell cycle pathway, for conferring increased resistance to plant disease, for producing galactomannan, increased resistance to plant disease, for increasing the rate of homologous recombination in plants, for improving yield by modification of photosynthesis or carbohydrate, nitrogen or phosphorus use and/or uptake or by providing improved plant growth and development under at least one stress condition or for modifying seed oil or protein yield and/or content. This is the amino acid sequence of a plant full length insert interped.
                                                                                                                                                    New recombinant DNA construct, useful for improving plant tolerance to cold, heat, drought, herbicides, extreme osmotic conditions, pathogens or pests, for conferring increased resistance to plant disease, or for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Staphylococcus epidermidis SR1 strain; infection; diagnosis; vaccination;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S. epidermidis open reading frame protein sequence SEQ ID NO:2532.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              55.6%; Score 5; DB 8; Length 173; 100.0%; Pred. No. 3.2e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0; Indels
                                                                 Tabaska JE,
                                                                                                                                               recombinant DNA construct, useful for improving
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           100.0%; Preu. ...
                                                                 Screen SE,
                                                                                                                                                                                                                                                    Claim 1; SEQ ID NO 60854; 15pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAG82719 standard; protein; 177 AA.
                                                              Zhou Y, Kovalic DK,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        09-NOV-2000; 2000WO-US030782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Staphylococcus epidermidis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GROUP LTD
(TABA/) TABASKA J E. (CAOY/) CAO Y.
                                                                                                       WPI; 2004-180133/17.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 2001-316495/33.
N-PSDB; AAH53569.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            125 KVDDT 129
                                                                                                                                                                                                              improving yield.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 173 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WO200134809-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (GLAX ) GLAXO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    endocarditis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   09-NOV-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Kimmerly WJ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        03-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                17-MAY-2001.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAG82719;
                                                              Liu J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 76
                                                                                                                                                  New
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAG82719
g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                The invention relates to an isolated nucleic acid detection reagent capable of detecting 1000 or more genes from Drosophila. The invention is useful in developmental biology and in elucidating cell signalling and cell-cell interactions in higher eukaryotes for the development of insecticides, therapeutics and pharmaceutical drugs. The invention discloses genomic DNA sequences (ABL16176-ABL30511), expressed DNA ABB72072). The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       plant protectant; plant growth regulant; gene therapy; plant; recombinant DNA construct; physical array; plant breeding marker; cold tolerance; heat tolerance; drought tolerance; herbicide tolerance; extreme osmotic condition; pathogen tolerance; pest tolerance; growth rate; cell cycle pathway; disease resistance; galactomannan production; lignin production; plant growth regulator; yield; plant growth; plant development; seed oil; protein yield;
                                                                                                                                                                                                                            New isolated nucleic acid detection reagent for detecting 1000 or more genes from Drosophila and for elucidating cell signaling and cell-cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                               Disclosure; SEQ ID NO 37890; 21pp + Sequence Listing; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           55.6%; Score 5; DB 4; Length 170; 100.0%; Pred. No. 3.1e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Plant full length insert polypeptide segid 60854.
                                                                                                                         Myers EW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ADY05039 standard; protein; 173 AA.
                                                                                                                    PWD,
             23-MAR-2000; 2000US-0191637P.
11-JUL-2000; 2000US-00614150.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        28-APR-2003; 2003US-00425114.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       05-NOV-2001; 2001US-00985678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   99US-00304517
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      21-APR-2005 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity 100.
Matches 5; Conservative
                                                                                                                       Ľ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ZHOU Y.
KOVALIC D K.
SCREEN S E.
                                                                                                                       Adams M,
                                                                                                                                                               WPI; 2001-656860/75
                                                                            (PEKE.) PE CORP NY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TPYYV 50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5 TFYYV 9
                                                                                                                                                                                 N-PSDB; ABL14469
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 170 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                content.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US2004034888-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LIU J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   06-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Unidentified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             19-FEB-2004
                                                                                                                    Venter JC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADY05039;
```

RESULT 75 ADY05039

ઠે

(ZHOU/) (KOVA/) (SCRE/)

(LIU3/)

protein

ö

Gaps

```
ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAH52304 to AAH53970 represent nucleic acids (I) encoding polypeptides (II), given in AAGB1454 to AAGB3120, from Staphylococcus epidermidis. (I) and have antibacterial activity and therefore can be used in vaccination. The nucleic acids (I) may be used to produce the S. epidermidis polypeptides (II) via the production of vectors containing them which are used to produce hosts cells which expess the polypeptides (II) (and/or nucleic acids) may then be used to vaccinate subjects and to raise antibodies against the bacteria. The polypeptides may also be used to other inhibitors of their activity and therefore identify compounds that may be used for the cativity and therefore identify compounds that may be used for the cativity and therefore identify compounds that may be used for the cativity and therefore identify compounds that may be used for the cativity and therefore identify compounds that may be used for the cativity and therefore identify claimed S. epidermidis genomic DNA DOLYMUCLECTION (AAH5509) to AAH55090 represent specificatiny claimes from the present invention. AAH55091 to AAH55098 cempresent collisonate from the present invention, Nowever the sequence listing of the present invention, however the sequence listing only goes up to SEQ ID NO:4454 so even though sequences are given in the disclosure for SEQ ID NO:4465 to 4472, no sequences are given
                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    plant protectant; plant growth regulant; gene therapy; plant; recombinant DNA construct; physical array; plant breeding marker; cold tolerance; heat tolerance; drought tolerance; herbicide tolerance; extreme osmotic condition; pathogen tolerance; pest tolerance; growth rate; cell cycle pathway; disease resistence; galactomannan production; lighn production; plant growth regulator; yield; plant growth; plant development; seed oil; protein yield;
                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
              Nucleic acids encoding polypeptides from Staphylococcus epidermidis, useful for vaccinating against infections, e.g. endocarditis.
                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                     55.6%; Score 5; DB 4; Length 177; 100.0%; Pred. No. 3.2e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Plant full length insert polypeptide seqid 66835.
                                                     Claim 18; Page 665; 2188pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADY11020 standard; protein; 182 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               28-APR-2003; 2003US-00425114.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         06-MAY-1999; 99US-00304517.
05-NOV-2001; 2001US-00985678.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                  5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (LIUJ/) LIU J.
(ZHOU/) ZHOU Y.
(KOVA/) KOVALIC D K.
(SCRE/) SCREEN S E.
(TABA/) TABASKA J E.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KOVALIC D K.
SCREEN S E.
                                                                                                                                                                                                                                                                                                                                                                                                                  Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              18 KVDDT 22
                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                              Sequence 177 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US2004034888-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      protein content
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Unidentified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                21-APR-2005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     19-FEB-2004.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ADY11020;
                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 77
셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠે
```

```
The invention describes a recombinant DNA construct comprising a polymucleotide consisting of a sequence encoding an amino acid sequence available in electronic form from the US patent office at available in electronic form from the US patent office at the sequence. Here for the invention are also useful in physical arrays of molecules and as plant breeding markers. The recombinant DNA construct is useful for improving plant tolerance to cold, heat, drought, herbicides, extreme osmotic conditions, pathogens or pests, for manipulating growth rate in plant cells by modification of the cell cycle pathway, for conferring increased resistance to plant disease, for producing galactomannan, lignin or plant growth regulators, for increasing the rate of homologous recombination in plants, for improving yield by modification of photosynthesis or carbohydrate, nitrogen or phosphorus use and/or uptake or by providing improved plant growth and development under at least one stress condition or for modifying seed oil or protein yield and/or content. This is the amino acid sequence of a plant full length insert polypeptide that can be used in the recombinant DNA construct of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                           New recombinant DNA construct, useful for improving plant tolerance to cold, heat, drought, herbicides, extreme osmotic conditions, pathogens or pests, for conferring increased resistance to plant disease, or for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              plant protectant; plant growth regulant; gene therapy; plant; recombinant DNA construct; physical array; plant breeding marker; cold tolerance; heat tolerance; drought tolerance; herbicide tolerance; extreme osmotic condition; pathogen tolerance; pest tolerance; growth rate; cell cycle pathway; disease resistance, galactomannan production; liquin production; plant growth regulator; yield; plant growth; plant development; seed oil; protein yield;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                           Cao
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              55.6%; Score 5; DB 8; Length 182; 100.0%; Pred. No. 3.3e+02; ive 0; Mismatches 0; Indels
                                                                           Tabaska JE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Plant full length insert polypeptide segid 67071.
                                                                           Screen SE,
                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 1; SEQ ID NO 66835; 15pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ADY11256 standard; protein; 182 AA.
                                                                           Kovalic DK,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 28-APR-2003; 2003US-00425114.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         06-MAY-1999; 99US-00304517,
05-NOV-2001; 2001US-00985678,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              21-APR-2005 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local Similarity 100.
nes 5; Conservative
                                                                                                                                               WPI; 2004-180133/17.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              134 KVDDT 138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 KVDDT 5
                                                                       Liu J, Zhou Y,
                                                                                                                                                                                                                                                                                                           pests, for confe
improving yield.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 182 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US2004034888-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      protein content.
(CAOY/) CAO Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Unidentified.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      19-FEB-2004.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ADY11256;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ADY11256
```

```
21-APR-2005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ADY10671;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                  Wang L,
Wall D,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 80
ADY10671
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
   ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ESESSION
                                                                                                                                                                                         The invention describes a recombinant DNA construct comprising a polynucleotide consisting of a sequence encoding an amino acid sequence available in electronic form from the US patent office at available in electronic form from the US patent office at the invention are also useful in physical arrays of molecules and as plant breeding markers. The recombinant DNA construct is useful for improving plant tolerance to cold, heat, drought, herbicides, extreme osmotic conditions, pathogens or pests, for manipulating growth rate in plant cells by modification of the cell cycle pathway, for conferring increased resistance to plant disease, for increasing the rate of homologous recombination in plants, for improving yield by modification of photosynthesis or carbohydrate, nitrogen or phosphorus use and/or uptake or by providing improved plant growth and development under at least one stress condition or for modifying seed oil or protein yield and/or content. This is the amino acid sequence of a plant till length insert in the recombinant DNA construct of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                  New recombinant DNA construct, useful for improving plant tolerance to cold, heat, drought, herbicides, extreme osmotic conditions, pathogens or pests, for conferring increased resistance to plant disease, or for improving yield.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Antisense; prokaryotic essential gene; cell proliferation; drug design.
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                            Cao Y;
                                                                                                                                                                                                                                                                                                                                                                                                                            55.6%; Score 5; DB 8; Length 182; 100.0%; Pred. No. 3.3e+02; rive 0; Mismatches 0; Indels
                                                                          Tabaska JE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Protein encoded by Prokaryotic essential gene #15577.
                                                                          Screen SE,
                                                                                                                                                                      Claim 1; SEQ ID NO 67071; 15pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ABU30050 standard; protein; 189 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2001US-00948993.
2001US-0342923P.
2002US-00072851.
2002US-0362699P.
                                                                          Kovalic DK,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            21-MAR-2002; 2002WO-US009107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            19-JUN-2003 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                    5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Enterococcus faecium
                      KOVALIC D K.
                                                                                               WPI; 2004-180133/17.
                              SCREEN S E.
TABASKA J E.
                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       134 KVDDT 138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 KVDDT 5
                                                                          Zhou Y,
                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 182 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WO200277183-A2.
                                                     GO Y
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           06-SEP-2001;
25-OCT-2001;
08-PEB-2002;
06-MAR-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  21-MAR-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       03-OCT-2002
                                                                                                                                                                                                                                                                                                                                                                                    nvention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ABU30050;
                    (KOVA/)
(SCRE/)
(TABA/)
(CAOY/)
(LIUJ/)
(ZHOU/)
                                                                       Liu J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 79
셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
```

```
the following and the following the vector; (3) an isolated considered to the following the following the vector; (3) an isolated considered the following and the following a gene product or that has an activity against a biological pathway to which a proliferation, for that inhibits proliferation of an identifying a gene compound that inhibits proliferation of an organism acts; (9) manufacturing an antibicit; (10) profilling a compound's activity; (11) a culture comprising strains in which the gene compound's activity; (11) a culture comprising strains in which the compound the target of a compound that inhibits the extent of the strains is present in a culture or collection of a crains, or (13) identifying the target of a compound that inhibits the extent of the strains is present in a culture or collection of a strains; or (13) identifying the target of a compound that inhibits collection of a fortile or strains in the action of an organism. The antisense nucleic acids required for collection of for collection of the collec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                           New antisense nucleic acids, useful for identifying proteins or screening for homologous nucleic acids required for cellular proliferation to isolate candidate molecules for rational drug discovery programs.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         drug discovery programs, or for screening homologous nucleic acids required for proliferation in cells other than S. aureus, S. typhimurium, K. pneumoniae or P. aeruginosa. The present sequence is encoded by one of the target prokaryotic essential genes. Note: The sequence data for this patent did not form part of the printed specification, but was obtained
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    invention relates to an isolated nucleic acid comprising any one of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       plant protectant; plant growth regulant; gene therapy; plant; recombinant DNA construct; physical array; plant breeding marker; cold tolerance; heat tolerance; drought tolerance; herbicide tolerance; extreme osmotic condition; pathogen tolerance; pest tolerance; growth rate; cell cycle pathway; disease resistance;
                                                                                           Zyskind JW;
Xu HH;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         55.6%; Score 5; DB 6; Length 189;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0; Indels
                                                                                           Äξ
                                                                                           Ohlsen Forsyth F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Plant full length insert polypeptide segid 66486.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100.0%; Pred. No. 3.4e+02; ive 0; Mismatches 0;
                                                                                           Haselbeck R,
Yamamoto R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim 25; SEQ ID NO 57974; 1766pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      directly from WIPO at
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Etp.wipo.int/pub/published_pct_sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ADY10671 standard; protein; 189 AA.
                                                                                      Malone C,
Carr GJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (first entry)
(ELIT-) ELITRA PHARM INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5; Conservative
                                                                                      Zamudio C,
Trawick JD,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      format
                                                                                                                                                                                                                              WPI; 2003-029926/02
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 KVDDT 5
                                                                                                                                                                                                                                                                              N-PSDB; ACA33920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 189 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           11111
59 KVDDT
```

```
Human, chromosome mapping, gene mapping, gene therapy, forensic, food supplement, medical imaging, diagnostic, genetic disorder.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-JAN-2004 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local Similarity 100.
Les 5; Conservative
                                                                                                                                                                                           Drmanac RT, Liu C,
                                                                                                                                                                                                                WPI; 2001-639362/73.
N-PSDB; AAS85464.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        159 VDDTF 163
                                                                                                                                                                    (HYSE-) HYSEQ INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 201 AA;
                                                              WO200175067-A2
                                                                                                                                                                                                                                                                                       biodiversity.
                                       Homo sapiens.
                                                                                     11-OCT-2001.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADC94805;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADC94805
      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ****
                                                                                                                                                                                                                                                                                                                                                                                     The invention describes a recombinant DNA construct comprising a polynucleotide consisting of a sequence encoding an amino acid sequence available in nelectronic form from the US patent office at available in electronic form from the US patent office at the invention are also useful in physical arrays of molecules and as plant breeding markers. The recombinant DNA construct is useful for improving plant tolerance to cold, heat, drought, herbicides, extreme semotic conditions, pathogens or pests, for manipulating growth rate in plant cells by modification of the cell cycle pathway, for conferring increased resistance to plant disease, for producing galactomannan, ignin or plant growth regulators, for increasing the rate of homologous recombination in plants, for improving yield by modification of photosynthesis or carbohydrate, nitrogen or phosphorus use and/or uptake or by providing improved plant growth and development under at least one stress condition or for modifying seed oil or protein yield and/or content. This is the amino acid sequence of a plant full length insert plantenion.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                          New recombinant DNA construct, useful for improving plant tolerance to cold, heat, drought, herbicides, extreme osmotic conditions, pathogens pests, for conferring increased resistance to plant disease, or for improving yield.
galactomannan production; lignin production; plant growth regulator; yield; plant growth; plant development; seed oil; protein yield; protein content.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                              Cao Y;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         55.6%; Score 5; DB 8; Length 189; 100.0%; Pred. No. 3.4e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                              Tabaska JE,
                                                                                                                                                                                                                                                              Screen SE,
                                                                                                                                                                                                                                                                                                                                                                     Claim 1; SEQ ID NO 66486; 15pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Novel human diagnostic protein #21268.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ABG21277 standard; protein; 201 AA.
                                                                                                                     28-APR-2003; 2003US-00425114.
                                                                                                                                                                                                                                                              Kovalic DK,
                                                                                                                                            06-MAY-1999; 99US-00304517.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity 100.v
                                                                                                                                                                            LIU J.
ZHOU Y.
KOVALIC D K.
SCREEN S E.
TABASKA J E.
                                                                                                                                                                                                                                                                                    WPI; 2004-180133/17.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             141 KVDDT 145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 KVDDT S
                                                                                                                                                                                                                                                              Zhou Y,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 189 AA;
                                                                      US2004034888-A1.
                                                                                                                                                                                                                                         CAO Y.
                                                                                                                                         06-MAY-1999;
                                                  Unidentified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    18-FEB-2602
                                                                                               19-FEB-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ABG21277;
                                                                                                                                                                                                                           (TABA/)
(CAOY/)
                                                                                                                                                                              ring/)
                                                                                                                                                                                                    (KOVA/)
                                                                                                                                                                                                                                                              Liu J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ABG21277
   à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 XXXEX8X
```

```
The invention relates to isolated polymucleotide (I) and polypeptide (II) sequences. (I) is useful as hybridisation probes, polymerase chain reaction (PCR) primers, oligomers, and for chromosome and gene mapping, and in recombinant production of (II). The polymucleotides are also used in diagnostics as expressed sequence tags for identifying expressed considers in diagnostics as expressed sequence tags for identifying expressed considers in gene therapy techniques to restore normal cativity of (II) or to treat disease states involving (II). (II) is useful for generating antibodies against it, detecting or quantitating a cupplement. (II) and its binding partners are useful in medical imaging consupplement. (II) and its binding partners are useful in medical imaging of sites expressing (II). In are useful for treating disorders of supplement. (II) and its binding partners are useful in medical imaging of sites expressing (II). In are useful for treating disorders of involving aberrant protein expression or biological activity. The polypeptide and polymucleotide sequences have applications in cations of sequences of the invention. Note: The sequence data for this maint acid sequences of the invention. Note: The sequence data for this patent did not appear in the printed specification, but was obtained in catetronic format directly from WHDO at cat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Vaccine; urinary tract infection; bacteraemia; endocarditis; wound; abdominal-pelvic infection.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               New isolated polynucleotide and encoded polypeptides, useful in diagnostics, forensics, gene mapping, identification of mutations responsible for genetic disorders or other traits and to assess
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 201;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 4; Len
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 55.6%; Score 5; DB 4
100.0%; Pred. No. 3.6
tive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim 20; SEQ ID NO 51636; 103pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 E. faecium protein sequence SEQ ID 4432.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ADC94805 standard; protein; 202 AA.
30-MAR-2001; 2001WO-US008631.
                                                                                                                   31-MAR-2000; 2000US-00540217.
23-AUG-2000; 2000US-00649167.
```

US6583275-B1 24-JUN-2003

infection.

```
The present invention relates to the genomic sequence of Pyrococcus abyssi (see AAF86431 and AAH41223-7) and P. abyssi proteins. P. abyssi is a hyperthermophilic archaeon, which is isolated from deep-sea hydrochermal vents. The present sequence is one such P. abyssi protein. The proteins of the present invention have various potential industrial uses, since the proteins are stable at very high temperatures, some up to 110 degrees centigrade. Note: This patent is in the same patent family as WO200065062, which contains additional sequences as shown in AAB99132-AAB99143, AAH75903-AAH75920 and AAG66436
                                                                                                                                                                                                                                                             New nucleotide sequences isolated from Pyrococcus abyssi encode proteins useful in industry.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Immunogenic protein; Toxoplasma gondii protein; oocyst shedding; cat;
I. gondii infection; enteric apicomplexa oocyst; Cryptosporidium oocyst;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        New isolated Toxoplasma gondii nucleic acids used, e.g. to treat infection caused by this microorganism.
                                                                                                                                                                 Lecompte 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 211;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                          Thierry JC, Prieur D, Dietrich J, I
Weissenbach J, Saurin W, Heilig R;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 4; Len
lo. 3.8e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       55.6%; Score 5; DB 4
100.0%; Pred. No. 3.8
:ive 0; Mismatches
                                                                                              (CNRS ) CNRS CENT NAT RECH SCI.
(IFRE-) IFREMER INST FR RECH EXPL MER.
                                                                                                                                                                                                                                                                                                                           Claim 7; Page 1441; 1657pp; French.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAY29015 standard; protein; 230 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ng RK;

    gondii immunogenic protein.

                   99FR-00005034.
                                                          99FR-00005034.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               98WO-US027137.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      97US-00994825
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity 100.us
S; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SB,
                                                                                                                                                                                                                         WPI; 2001-126236/14.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Lutz
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 1999-418930/35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             139 KVDDT 143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Toxoplasma oocyst.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Toxoplasma gondii.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      N-PSDB; AAX91216.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 211 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Milhausen MJ,
                                                                                                                                                            Forterre P,
Querellou J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (HESK-) HESKA
                   21-APR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WO9932633-A1.
                                                          21-APR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    24-SEP-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             18-DEC-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        19-DEC-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-JUL-1999,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAY29015;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAY2901
셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      X414X84X1X8X8X8X8X8X8X8X8X1X8X8X
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The invention relates to an isolated nucleic acid derived from
Enterococcus faecium encoding an Enterococcus faecium polypeptide having
One of 10 fully defined sequences given in the (or comprising 40
sequential nuclectides chosen from any of the nucleic acids, its
complement or sequences hybridising to it). Also included are a
recombinant vector comprising the nucleic acid operably linked to
transcription regulatory element, a cell comprising the vector and a
single-stranded probe comprising the nucleic acid. The nucleic acids are
chosen from 3654 disclosed sequences encoding 3654 disclosed proteins.
The nucleic acids is useful for diagnosing pathological conditions
resulting from E. faecium bacterial infection (e.g. urinary tract
infection) bacteraemia, endocarditis, wounds and abdominal-pelvic
infection) and for screening drugs such as agonists and antagonists. The
nucleic acid is useful for recombinant production of candida albicans
derived peptides or antiense polypeptides. Pharmaccutical compositions
and vaccines containing the nucleic acid are useful for preventing or
treating Enterococcus faecium infections. The present sequence represents
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                            ап
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Putative P. abyssi dolichol phosphate mannose synthase related protein.
                                                                                                                                                                                                                                                                                                                                                                               New isolated nucleic acid derived from Enterococcus faecium encoding a Enterococcus faecium polypeptide useful for detection, prevention and treatment of a pathological condition resulting from a bacterial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  55.6%; Score 5; DB 7; Length 202; 100.0%; Pred. No. 3.7e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Hyperthermophilic archaeon; hyperthermophilic protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Example 1; SEQ ID NO 4432; 243pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   treating Enterococcus faecium infections. one if the disclosed B. faecium proteins.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAB96683 standard; protein; 211 AA.
                                                                                                                                                                                                                                   (GENO-) GENOME THERAPEUTICS CORP.
                                                                                                                                                                       97US-0051571P.
98US-0085598P.
                                                                                                                                                                                                                                                                                Bush D;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   29-OCT-2001 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5; Conservative
          Enterococcus faecium.
                                                                                                                                                                                                                                                                                                                       WPI; 2003-799836/75.
                                                                                                                                                                                                                                                                                Doucette-Stamm LA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ||||||
KVDDT 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pyrococcus abyssi
                                                                                                                                                                                                                                                                                                                                          N-PSDB; ADC91151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 202 AA;
                                                                                                                                30-JUN-1998;
                                                                                                                                                                                             14-MAY-1998;
                                                                                                                                                                         02-JUL-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FR2792651-A1
```

27-OCT-2000

AAB96683;

2 X 3 X 8 X 8 X 1 X Y S X 8 X 1 X Y S

RESULT 8.

Query Match Best Loca Matches

δ 셤

ö

Gaps

```
55.6%; Score 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim 6; SEQ ID NO 31; 198pp; English
                                                                                                                                                                                                                                                                                                               ADG17081 standard; protein; 230 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAB25468 standard; protein; 235 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            17-DEC-2002; 2002US-00321856.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          97US-00994825
98US-00216393
                                                        55.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               27-NOV-2000 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (MILH/) MILHAUSEN M J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                        T. gondii protein #15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 2003-899768/82.
N-PSDB; ADG17080.
                                                                      Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local Similarity
                                                                                                                                                                                            168 KVDDT 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KVDDT 172
                                                                                                                                                  2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Toxoplasma gondii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 KVDDT 5
         Sequence 230 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 230 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US2003194393-A1.
                                                                                                                                                  1 KVDDT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             19-DEC-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Milhausen MJ
                                                                                                                                                                                                                                                                                                                                                                                                          26-FEB-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   18-DEC-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  16-OCT-2003.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     invention
                                                                                                                                                                                                                                                                                                                                                           ADG17081;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAB25468;
                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                   RESULT 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 87
                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                     S X C C C C C C C X S X L L X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X X B X 
                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The invention relates to detection of parasite oocysts or cysts in a faeces sample comparising contacting the sample with a sollid support, drying and then washing the sample with an aqueous wash solution, adding an aqueous elution solution and eluting DNA from the sample by heating and amplifying by PCR oocyst/cyst-specific DNA and detecting the amplification products. The method is useful for detecting parasite oocysts e.g., enteric apicomplexa oocysts such as Cryptosporidium oocysts or Toxoplasma oocysts, or for detecting parasite cysts e.g. diardia cocysts. The method is also useful for developing vaccines to prevent oocyte shedding in cats. The present sequence represents an immunogenic protein from Toxoplasma gondii
                                            The invention provides isolated Toxoplasma gondii nucleic acids that encode immunogenic polypeptides. The T. gondii nucleic acid molecules, immunogenic proteins and antibodies to the proteins can be used to inhibit T. gondii occyst shedding in a cat due to infection with T. gondii. They can be used for preventing T. gondii infection and for preventing the spread of T. gondii infection. They can also be used for detecting T. gondii infection. They can be used for parasite cysts or occysts in feces, e.g. from enteric apicomplexa occysts such as Cryptosporidium occysts and Toxoplasma occysts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Detecting parasite occysts or cysts in feces, comprises eluting DNA from sample into aqueous solution by heating, amplifying DNA with primers specific for occysts or cysts being detected, and detecting amplification
                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Immunogenic protein; oocyst; faeces; enteric apicomplexa oocyst;
Cryptosporidium oocyst; Toxoplasma oocyst; Giardia cyst; vaccine;
                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                   55.6%; Score 5; DB 2; Length 230; 100.0%; Pred. No. 4.1e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          T. gondii immunogenic protein P4604-54.
Claim 29; Page 188-189; 381pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAU25486 standard; protein; 230 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Example 2; Page 67; 188pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          98US-00216393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        97US-00994825
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (first entry)
                                                                                                                                                                                                                                                                                                                                                                                    5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (MILH/) MILHAUSEN M J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2001-529100/58.
                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                               168 KVDDT 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Toxoplasma gondii.
                                                                                                                                                                                                                                                                                                                                                                                                                                1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        N-PSDB; AAS42539
                                                                                                                                                                                                                                                                                       Sequence 230 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     oocyte shedding.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US2001014447-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Milhausen MJ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          18-DEC-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        19-DEC-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            17-DEC-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           16-AUG-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAU25486;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             product
    쉱
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
```

```
ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The invention relates to an isolated Toxoplasma gondii protein. The protein is useful for inhibit oocyst shedding by cats infected with Toxoplasma gondii. The protein is useful for preventing or ameliorating diseases caused by infection with T. gondii. The nucleic acid can be used as genetic vaccine which encodes the protein. The protein and the nucleic acid are used as diagnostic reagents for detection of T. gondii infection. The present sequence is used in the exemplification of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Novel immunogenic Toxoplasma gondii proteins useful for inhibiting oocyst shedding by cats infected with Toxoplasma gondii.
                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Toxoplasma gondii; oocyst shedding; genetic vaccine; vaccine.
55.6%; Score 5; DB 4; Length 230; 100.0%; Pred. No. 4.1e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 7; Length 230;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             100.0%; Pred. No. 4.1e+02; ive 0; Mismatches 0;
```

Ishii S;

Sato H,

Wakamatsu A,

Otsuki T,

Irie R;

Nagai K,

Sugiyama T, IBono Y,

Ė

```
(REAS-) RES ASSOC BIOTECHNOLOGY
                                                                                                                     21-JAN-2004; 2004EP-00001196.
                                                                                                                                                 21-JAN-2003; 2003JP-00102206.
09-MAY-2003; 2003JP-00131392.
                                                                                                                                                                                                                                                              WPI; 2004-535376/52.
                                                                                                                                                                                                                                                                             N-PSDB; ADQ63903.
                                   Homo sapiens.
                                                               EP1440981-A2
                                                                                                                                                                                                                                    Yamamoto J,
                                                                                        28-JUL-2004.
        cancer.
                                                                                                                                                                                                                      Isogai
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADY64614
        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                         AAA79263 to AAA79736 and AAB25100 to AAB25570 represent polymucleotide
and protein sequences isolated from eucalyptus (Eucalyptus grandis) or
pine (Pinus radiata also known as Monterey pine). The protein sequences
are involved in cell signaling. The polymucleotide and protein sequences
can be used to modify the response of plant cells to external signals
c. 9. environmental changes or pathogens during the growth and development
of a plant. They can be used to modify cell proliferation,
differentiation, elongation and survival, resistance to disease and
nutrient metabolism. Examples of modifications which can be produced are
altered fruit ripening and sensecence of leaves and flowers e.g. to delay
sensescence and prolong the life of cut flowers or enhance sensescence of
reproductive organs to engineer sterile plants. Other modifications can
be used to delay senescence in selected cell types or organs providing
consumption, or to decrease branching frequency in forest tree species
giving long stretches of valuable knot-free clear wood which can be used
in solid timber furniture and veneers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                            Isolated polynucleotide encoding a polypeptide involved in cell signaling used for generating transgenic plants with modified responses to external
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gene therapy, diagnostic marker; morbid state; osteoporosis;
neurological disease; Alzheimer's disease; Parkinson's disease; dementia;
                                        Bucalyptus grandis; Pinus radiata; Monterey pine; plant; modification;
plant;cell signalling; modulation; transgenic plant; pathogen; growth;
environmental change; development; cell proliferation; differentiation;
elongation; survival; disease resistance; nutrient metabolism.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            osteopathic; neuroprotective; nootropic; antiparkinsonian; cytostatic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
             Pinus radiata cell signalling involved protein SEQ ID NO:787.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 235;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4.2e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     55.6%; Score 5; DB 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   100.0%; Pred. No. 4.2 ive 0; Mismatches
                                                                                                                                                                                                                                                                       (GENE-) GENESIS RES & DEV CORP LID.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ADQ66091 standard; protein; 238 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Novel human protein sequence #1064.
                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 3; Page 364; 527pp; English.
                                                                                                                                                                                                                                                                                                   Nieuwenhuizen NJ
                                                                                                                                                                                                  11-JAN-2000; 2000WO-US000724.
                                                                                                                                                                                                                              99US-00228986.
99US-0162866P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local Similarity 100.
                                                                                                                                                                                                                                                                                                                                WPI; 2000-476052/41.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     117 börèÿ 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3 DDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 235 AA;
                                                                                                                                         WO200042171-A1.
                                                                                                               Pinus radiata
                                                                                                                                                                                                                                                                                                   Strabala TJ,
                                                                                                                                                                                                                            12-JAN-1999;
01-NOV-1999;
                                                                                                                                                                       20-JUL-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   07-OCT-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ADQ66091;
                                                                                                                                                                                                                                                                                                                                                          solated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                      signals.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 88
g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              &&&&&&&&
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
```

```
The invention relates to 2495 novel polynucleotides (I) and their encoded polypeptides, sequences hybridizing to these nucleotides, sequences encoding partial polypeptides and sequences having 70% to 90% identity to the nucleotide and protein sequences. The nucleotides and polypeptides are useful as diagnostic markers or therapeutic target for the diseases or morphid states. They are also useful for treating osteoprosals, neurological diseases, Alzhaimer's diseases, Parkinson's diseases, dementia and various cancers. This sequence corresponds to a protein
Novel 2495 cDNA, useful for treating osteoporosis, neurological diseases Alzheimer's diseases, Parkinson's diseases, dementia and various cancers
                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Farias LP, Miyasato PA, Kawano T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Schistosomacide; schistosomiasis; psychiatric disorder; vaccine;
                                                                                                                                                                                                                                                                                                                                                                      ô
                                                                                                                                                                                                                                                                                                                                Length 238;
                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                          DB 8; Len
o. 4.2e+02;
                                                                                                                                                                                                                                                                                                              55.6%; Scor.
100.0%; Pred. No. ...
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (AMPA-) FUNDACAO AMPARO A PESQUISA DO ESTADO.
                                                     Claim 1; SEQ ID NO 3252; 2449pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ADY64614 standard; protein; 238 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Verjovski-Almeida S, Leite LCC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S. mansoni protein SEQ ID 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                10-SEP-2004; 2004WO-BR000170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        11-SEP-2003; 2003US-0502277P.
                                                                                                                                                                                                                                                   sequence of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first entry)
                                                                                                                                                                                                                                                                                                                                                                    5; Conservative
                                                                                                                                                                                                                                                                                                                                              Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Schistosoma mansoni
                                                                                                                                                                                                                                                                                                                                                                                                                                           43 VDDTF 47
                                                                                                                                                                                                                                                                                                                                                                                                       2 VDDTF 6
                                                                                                                                                                                                                                                                                        Sequence 238 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WO2005023979-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 02-JUN-2005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             17-MAR-2005.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  diagnosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ADY64614;
                                                                                                                                                                                                                                                                                                                            Query Match
```

```
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAG28323
    ଚ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         XFXBXFXFXFXFX
                                                                                                                                                                The invention relates to an isolated nucleic acid molecule encoding a Schistosoma mansoni protein, or its portion which is at least 20 amino acid state. As included are an expression vector comprising the nucleic acid operably linked to a promoter, a recombinant cell transformed/transfected with the nucleic acid in combination with a pharmaceutical adjuvant or carrier, an isolated s. mansoni protein composition comprising the nucleic acid in combination with a pharmaceutical adjuvant or carrier, an isolated S. mansoni protein composition composition comprising the isolated S. mansoni protein, an isolated antibody which specifically binds to the isolated S. mansoni protein, a hybridoma cell line which produces the isolated antibody, a method for determining a S. mansoni infection in a subject and a computer readable medium having recorded in it a nucleic acid molecule from S. mansoni genome. The nucleic acid molecule is useful for preventing, diagnosing, or treating S. mansoni infection (schistosomiasis). It can also be used as vaccine against S. mansoni. The present sequence is a solistosoma mansoni protein of the invention. Note: The sequence data for the printed specification, but was the control of the printed specification, but was the control of the printed specification.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                plant protectant; plant growth regulant; gene therapy; plant; recombinant DNA construct; physical array; plant breeding marker; cold tolerance, heat tolerance; drought tolerance; herbicide tolerance; extreme osmotic condition; pathogen tolerance; pest tolerance; growth rate; cell cycle pathway; disease resistance; galactomannan production; lignin production; plant growth regulator; yield; plant growth, plant development; seed oil; protein yield;
                                                                                                                                                                                                                                                                                                                                                                                                                                          ftp.wipo.int/pub/published pct_sequences. Also, SEQ ID 2141-2152 are mentioned in the specification but are not included in the sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                  New isolated nucleic acid molecule encoding a Schistosoma mansoni protein, useful for as a vaccine or for preventing, diagnosing, or treating Schistosoma mansoni infection.
Ho PL, Nascimento ALTO;
Madeira AMBN, Rodrigues V;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 9; Length 238;
0. 4.2e+02;
ches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Plant full length insert polypeptide segid 40046.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            55.6%; Score 5; DB 9 ilarity 100.0%; Pred. No. 4.2 Conservative 0; Mismatches
                                                                                                                                         Disclosure; SEQ ID NO 32; 52pp; English
 Garcia JCL, Martins EAL, , Setubal JC, Menck CFM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADX70680 standard; protein; 240 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                28-APR-2003; 2003US-00425114.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                        WPI; 2005-223357/23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ŋ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 238 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US2004034888-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   protein content
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 KVDDT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3 KVDDT
Demarco R, Ga
Dias-Neto E,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Unidentified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           21-APR-2005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      19-FEB-2204
                             Gargioni C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADX70680;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
ઠે
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The invention describes a recombinant DNA construct comprising a polynucleotide consisting of a sequence encoding an amino acid sequence available in electronic form from the US patent of office at the sequence of the sequence. The polynucleotide of the invention are also useful in physical arrays of molecules and as plant breeding markers. The recombinant DNA construct is useful for improving plant tolerance to cold, heat, drought, herbicides, extreme osmotic conditions, pathogens or pests, for manipulating growth rate in plant cells by modification of the cell cycle pathway, for conferring increased resistance to plant disease, for producing galactomanna, lighnin or plant growth regulators, for increasing the rate of homologous recombination in plants, for improving yield by modification of homologous photosynthesis or carbohydrate, mitrogen or phosphorus use and/or uptake the property of the coll of the coll of the contained of the contained of the coll of the contained of the contained of the contained of the contained of the coll of the contained of the contained of the coll of the coll of the contained of the contained of the coll of the coll of the contained of the coll of the col
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              or by providing improved plant growth and development under at least one stress condition or for modifying seed oil or protein yield and/or content. This is the amino acid sequence of a plant full length insert polypeptide that can be used in the recombinant DNA construct of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Protein identification; signal transduction pathway; metabolic pathway; hybridisation assay; genetic mapping; gene expression control; promoter;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              New recombinant DNA construct, useful for improving plant tolerance to cold, heat, drought, herbicides, extreme osmotic conditions, pathogens pests, for conferring increased resistance to plant disease, or for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Cao
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            55.6%; Score 5; DB 8; Length 240; 100.0%; Pred. No. 4.3e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Arabidopsis thaliana protein fragment SEQ ID NO: 33494.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Tabaska JE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Screen SE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 1; SEQ ID NO 40046; 15pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAG28321 standard; protein; 244 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Kovalic DK,
06-MAY-1999; 99US-00304517.
05-NOV-2001; 2001US-00985678.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   25-FEB-2000; 2000EP-00301439.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    17-OCT-2000 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5; Conservative
                                                                                                                                                                                                                             KOVALIC D K.
SCREEN S E.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          termination sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Arabidopsis thaliana.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 2004-180133/17.
                                                                                                                                                                                                                                                                                                                                               TABASKA J E.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        190 VDDTF 194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Zhou Y,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               improving yield.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 240 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EP1033405-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      06-SEP-2000.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAG28321;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           N
                                                                                                                                           (LIUJ/)
(ZHOU/)
                                                                                                                                                                                                                                             (KOVA/)
(SCRE/)
                                                                                                                                                                                                                                                                                                                                               (TABA/)
(CAOY/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Liu J,
```

905-01211805 905-01211805 905-0123480 905-0125780 905-0126780 905-0127462p 905-01287140 905-01287140 905-01287140 905-01300770 905-01300770	990S-0121499- 990S-0132407P- 990S-0132484P- 990S-01324867P- 990S-01324867P- 990S-01324867P- 990S-0132487P- 990S-0134256P- 990S-0134218P- 990S-0134218P- 990S-013421P- 990S-013431P- 990S-013431P- 990S-013521P- 990S-013522P- 990S-013522P- 990S-013522P- 990S-013522P- 990S-013522P- 990S-013522P- 990S-0137222P- 990S-0137222P-	905 - 0137724P 905 - 0138694P 905 - 0138647P 905 - 0138647P 905 - 0139452P 905 - 0139452P 905 - 0139454P 905 - 0139454P	9US-0139463P 9US-0139750P 9US-0139750P 9US-0139817P 9US-0140353P 9US-0140353P 9US-0140353P 9US-0140353P 9US-0141287P 9US-0141287P 9US-0141354P 9US-0142055P 9US-0142059P
5. FEB. 1999 9-MAR. 1999 9-MAR. 1999 9-MAR. 1999 9-MAR. 1999 9-MAR. 1999 6-APR. 1999 9-APR. 1999 3-APR. 1999	20 - APR - 1999; 30 - APR - 1999; 05 - MAY - 1999; 06 - MAY - 1999; 06 - MAY - 1999; 11 - MAY - 1999; 11 - MAY - 1999; 14 - MAY - 1999; 14 - MAY - 1999; 15 - MAY - 1999; 16 - MAY - 1999; 20 - MAY - 1999; 21 - MAY - 1999; 22 - MAY - 1999; 23 - MAY - 1999; 24 - MAY - 1999; 25 - MAY - 1999; 26 - MAY - 1999; 27 - MAY - 1999; 28 - MAY - 1999; 29 - MAY - 1999; 20 - MAY - 1999; 21 - MAY - 1999; 22 - MAY - 1999; 23 - MAY - 1999; 24 - MAY - 1999; 26 - MAY - 1999; 27 - MAY - 1999; 28 - MAY - 1999; 29 - MAY - 1999; 20 - MAY - 1999; 21 - MAY - 1999; 22 - MAY - 1999; 23 - MAY - 1999; 24 - MAY - 1999; 25 - MAY - 1999; 26 - MAY - 1999; 27 - MAY - 1999;	7 - TUN - 1999 8 - UUN - 1999 0 - UUN - 1999 4 - UUN - 1999 6 - UUN - 1999 8 - UUN - 1999	8 - UN - 1999 8 - UN - 1999 8 - UN - 1999 1 - UN - 1999 3 - UN - 1999 3 - UN - 1999 4 - UN - 1999 9 - UN - 1999 6 - UL - 1999 6 - UL - 1999 9 - UL - 1999 9 - UL - 1999

N - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 -	905-01448149 905-01448149 905-01450869 905-01450869 905-01450879 905-01450879 905-01452249 905-01452249 905-01452249 905-01452769 905-01452769 905-01452769 905-01452769 905-01452769 905-01452769 905-01452769 905-01452769 905-01459189 905-01459189 905-01459189 905-01459189 905-01459189 905-01479189	US-0147302 US-0147192 US-0147192 US-0147303 US-0147303 US-0147416 US-01484117 US-01488419 US-01488419 US-0149175 US-01491768 US-01491768 US-01491768 US-01491768 US-01491768 US-01491768 US-01491768	905-01499299029905-01499029905-01499029905-015965909902-015065909905-0151065906-0151065906-01540189905-01540189905-015540189905-0155596990905-01555969905-015559905-015559905-0155599905-0155599005-0155599005-0155599005-0155599005-0155599005-015559
	21-70L-1999 21-70L-1999 R 21-70L-1999 R 22-70L-1999 R 22-70L-1999 R 22-70L-1999 R 23-70L-1999 R 23-70L-1999 R 23-70L-1999 R 27-70L-1999 R 27-70L-1999	04-AUG-10 05-AUG-10 05-AUG-10 06-AUG-10 06-AUG-11 11-AUG-11 11-AUG-11 13-AUG-11 14-AUG-11 14-AUG-11 15-AUG-11 16-AUG-11 17-AUG-11 17-AUG-11 18-AUG	R 23-AUG-1999 R 23-AUG-1999 R 25-AUG-1999 R 27-AUG-1999 R 27-AUG-1999 R 31-AUG-1999 R 31-AUG-1999 R 13-SEP-1999 R 13-SEP-1999 R 13-SEP-1999 R 23-SEP-1999 R 20-SEP-1999 R 20-SEP-1999 R 20-SEP-1999

a promoter positioned to provide

Goldman BS;

```
The invention relates to a recombinant DNA construct comprising a promoter functional in a plant cell, where the promoter is positioned to provide for axpression of a polynucleotide encoding a polypeptide from a microbial source. The invention also relates to a transformed plant comprising the recombinant DNA construct and a method of producing a transformed plant having an improved property. The plant is a crop plant such as maize or soybean. The method of producing a transformed plant construct and growing the transforming a plant with the recombinant DNA construct and growing the transforming a plant with the polynucleotide or polypeptide is useful for improving plant properties.

The recombinant DNA construct is useful for improving plant with the improved plant properties, e.g. improved cold, heat or drought tolerance, improved plant properties, e.g. improved cold, heat or drought tolerance, conterns to herbicides, extreme osmotic conditions, pathogens or perts, increased resistance to plant disease, better growth rate by modification of the cell cycle pathway with plant growth regulators, increased rate of content, improved yield by modification of carbohydrate, nitrogen or phosphorus use and/or uptake, by modification of photosynthesis or by providing improved plant growth and development under at least one stress condition, improved plants production or improved galactomannan production. This sequence represents a bacterial polypeptide used in the scope of the printed specification but was obtained in electronic form at the printed specification but was obtained in electronic
                                                                                                                                      for expression of a polynucleotide encoding a polypeptide from a microbial source, useful for producing plants with improved properties.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 5; DB 8; Length 245;
Pred. No. 4.4e+02;
0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        format from USPTO at segdata.uspto.gov/sequence.html.
                                                                                                                                                                              Claim 1; SEQ ID NO 11354; 122pp; English.
                                                                                                                        New recombinant DNA construct comprising
                                                                     Chen X,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  55.6%; Scc...
100.0%; Pre-
                                                                     Slater SC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  20-MAY-2004 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local Similarity 100
                             CHEN X.
GOLDMAN B S.
                                                                                                WPI; 2004-061375/06.
                                                                     Hinkle GJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DDTFY 162
  HINKLE G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 245 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ADM20093;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  m
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
              (SLAT/)
(CHEN/)
(GOLD/)
  HINK/)
                                                                   Cao Y,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 93
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ADM20093
  %XCCCCCCCCCCCCCCCCCCX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          용
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   cold tolerance, heat tolerance; drought tolerance; herbicide; osmosis; pathogen tolerance; pest tolerance; plant disease resistance; cell cycle pathway modification; plant growth regulator; homologous recombination; seed oil yield; protein yield; carbohydrate; nitrogen; phosphorus; photosynthesis; lignin; galactomannan; bacterial polypeptide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Recombinant DNA construct; transformed plant; improved plant
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 3; Length 244; . 4.3e+02; ches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              55.6%; Score 5; DB 3
100.0%; Pred. No. 4.3
:ive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ADS22321 standard; protein; 245 AA.
           99US-0157753P.
99US-0157865P.
99US-0158232P.
99US-0158369P.
99US-0159294P.
99US-0159294P.
99US-0159232P.
99US-0159232P.
                                                                                                                                                                           99US-0159638P.
99US-0159584P.
99US-0160741P.
                                                                                                                                                                                                                  99US-0160767P.
99US-0160768P.
99US-0160770P.
                                                                                                                                                                                                                                                         99US-0160814P.
99US-0160815P.
99US-0160980P.
                                                                                                                                                                                                                                                                                                              99US-0160989P.
99US-0161404P.
99US-0161405P.
                                                                                                                                                                                                                                                                                                                                                                                                                       99US-0161992P.
99US-0161993P.
99US-0162142P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Bacterial polypeptide #11354.
                                                                                                                                                                                                                                                                                                                                                      99US-0161406P
                                                                                                                                                                                                                                                                                                                                                                                 99US-0161360P
99US-0161361P
                                                                                                                                                              99US-0159637P
                                                                                                                                                                                                                                                                                                  99US-0160981P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  20-FEB-2003; 2003US-00369493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           21-FEB-2002; 2002US-0360039P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     02-DEC-2004 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            202 DTFYY 206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4 DTFYY 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US2003233675-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (CAOY/) CAO Y.
                                                                                                       13-007-1999
14-007-1999
14-007-1999
14-007-1999
14-007-1999
14-007-1999
21-007-1999
21-007-1999
21-007-1999
22-007-1999
22-007-1999
22-007-1999
22-007-1999
22-007-1999
25-007-1999
                                    07-0CT-1999;
08-0CT-1999;
12-0CT-1999;
13-0CT-1999;
                                                                                                                                                                                                                                                                                                                                                                                 26-OCT-1999
                                                                                                                                                                                                                                                                                                                                                                      26-0CT-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        18-DEC-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local S:
Matches 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ADS22321;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bacteria.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            유
ð
```

```
cytostatic; cardiant; vasotropic; cerebroprotective; nootropic; neuroprotective; antibacterial; virucide; fungicide; opthalmological; per therapy; channel/transporter protein; rheumatoid arthritis; neoplasm; cardiac arrest; cerebrovascular disorder; cerebral ischemia; angiogenesis; nervous system disorder; Alzheimer's disease; corneal infection; wound healing; epithelial cell proliferation; skin aging; sunburn; transplantation; chemotaxis; food additive.
                                                                                                                                                                                                                                                                                                                                  Protein encoded by novel human channel/transporter gene #165 clone 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                 immunosuppressive; antiarthritic; antirheumatic; antiproliferative;
ADM20093 standard; protein; 254 AA.
```

ö

Gaps

;

```
Barash SC, Ruben SM;
      29-SEP-2000; 2000US-0236367P.
29-SEP-2000; 2000US-0236367P.
29-SEP-2000; 2000US-0236367P.
29-SEP-2000; 2000US-0236367P.
29-SEP-2000; 2000US-0236367P.
29-SEP-2000; 2000US-0236367P.
29-CCT-2000; 2000US-023703P.
02-OCT-2000; 2000US-0234647P.
08-NOV-2000; 2000US-024647P.
08-NOV-2000; 2000US-024647P.
08-NOV-2000; 2000US-024647P.
08-NOV-2000; 2000US-024652P.
08-NOV-2000; 2000US-024921P.
08-NOV-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (HUMA-) HUMAN GENOME SCI INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Rosen CA,
          2000US-0180628P.
2000US-0180628P.
2000US-0180628P.
2000US-01806374P.
2000US-0190176P.
2000US-019176P.
                                                               2001WO-US001307
WO200154472-A2.
                                                               17-JAN-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -SEP-2000;
                                   02-AUG-2001
```

\$\frac{7}{2}\frac{7}\frac{7}{2}\f

```
28-APR-2003; 2003US-00425114.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Kovalic DK,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           06-MAY-1999; 99US-00304517, 05-NOV-2001; 2001US-00985678.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                21-APR-2005 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LIU J.
ZHOU Y.
KOVALIC D K.
SCREEN S E.
TABASKA J E.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 2004-180133/17.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DTFYY 205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4 DTFYY 8
N-PSDB; AAD56495.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 254 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Zhou Y,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US2004034888-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              protein content
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CAO Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Unidentified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             19-FEB-2004.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ADX74695;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (rin1/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (KOVA/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (CAOY/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Liu J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ZHOU/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TABA/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SCRE/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ਨੇ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  THE STATE OF THE S
                                                                                                                                                                                                                                                      The invention relates to an isolated mucleic acid molecule encoding a channel/transporter protein or sequences at least 95% identical to a these. The mucleic acids and proteins encoded by them are used to prevent, treat or ameliorate a medical condition in e.g. humans, mice, rabbits, goats, horses, cats, dogs, chickens or sheep. They are also used to prevent, treat or ameliorate a medical condition or susceptibility to a pathological condition. The antibodies to the proteins can also be used in alleviating symptoms associated with the disorders and in diagnostic in alleviating symptoms associated with the disorders and in diagnostic (ELISA). Disorders which are diagnosed or treated immunosorbent assays (ELISA). Disorders which are diagnosed or treated immunosorbent assays communosassays e.g. rheumatoid arthritis, hyperproliferative disorders e.g. creations are expressed include autoimmune companies of the breast or liver, cardiovascular disorders e.g. carchiac arrest, cerebrovascular disorders e.g. Alzheimer's disease, infections caused by carcell proliferation, to prevent skin aging due to sunburn, to maintain cell proliferation, to prevent skin aging due to sunburn, to maintain corgans before transplantation, for supporting cell culture of primary tissues, to regenerate tissues and in chemotaxis. The polypeptides can also be used to see used to a protein of the encoder expense archiac successions archiac successions archiac succession of the sequence corresponds to a protein of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                              Isolated nucleic acid molecule encoding a channel/transporter protein is used in preventing, treating or ameliorating a medical condition.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human, very long chain fatty acid biosynthesis enzyme; VLFA; VLCFABE; non-insulin dependent diabetes mellitus; NIDDM; adrenoleukodystrophy; ALD; autosomal dominant macular dystrophy; adMD; Alzheimer's disease; coronary heart disease; stroke; myocardial infarction; gene therapy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 4; Length 254;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human VLCFABE MOOSE00006 protein from ctg12729.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         55.6%; Score 5; DB 4
100.0%; Pred. No. 4.5
ive 0; Mismatches
                                                                                                                                                                                                     Claim 11; SEQ ID NO 900; 809pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAE37328 standard; protein; 254 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        04-NOV:2002; 2002WO-IB004610.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   06-NOV-2001; 2001US-0332864P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (DECO-) DECODE GENETICS EHF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity 100.vs
--hes 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               27-AUG-2003 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sigurdsson GT;
                         WPI; 2001-476159/51.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WPI; 2003-430674/40.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  117 VDDTF 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2 VDDTF 6
                                                N-PSDB; ADM19614
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 254 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WO2003040392-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           15-MAY-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        nvention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAE37328;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Betts M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 94
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAE37328
```

d ઠ

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                           The invention relates to very long chain fatty acid (VLFA) biosynthesis enzymes (VLCFABB) and polynucleotides encoding such proteins. Sequences of the invention are useful for treating VLCFABB diseases such as noninsulin dependent diabetes mellitus (NIDDM), adrenoleukodystrophy (ALD), autosomal dominant macular dystrophy (aMDM), Alzheimer's disease and coronary heart diseases such as stroke and myocardial infarction. They are also used in gene therapy. The present sequence is human VLCFABB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     plant protectant; plant growth regulant; gene therapy; plant; recombinant DNA construct; physical array; plant breeding marker; cold tolerance; heat tolerance; drought tolerance; herbicide tolerance; extreme osmotific condition; pathogen tolerance; pest tolerance; growth rate; cell cycle pathway; disease resistance; galactomannan production; lignin production; plant growth regulator; yield; plant growth; plant development; seed oil; protein yield;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New recombinant DNA construct, useful for improving plant tolerance to cold, heat, drought, herbicides, extreme osmotic conditions, pathogens pests, for conferring increased resistance to plant disease, or for improving yield.
New isolated nucleic acid molecule comprising a very long chain fatty acid biosynthesis enzyme nucleic acid, useful for treating a disease associated with the biosynthesis enzyme nucleic acid.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Cao Y;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     55.6%; Score 5; DB 6; Length 254; 100.0%; Pred. No. 4.5e+02; Live 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Screen SE, Tabaska JE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Plant full length insert polypeptide segid 44061.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADX74695 standard; protein; 254 AA.
                                                                                                                                                                                        Claim 10; Page 87; 90pp; English.
```

```
The invention describes a recombinant DNA construct comprising a polynucleotide consisting of a sequence encoding an anino acid sequence available in electronic form from the US patent office at available in electronic form from the US patent office at the sequence. The sequence.html?DocID:2004034888. The polynucleotide of the invention are also useful in physical arrays of molecules and as plant breeding markers. The recombinant DNA construct is useful for improving plant tolerance to cold, heat, drought, herbicides, extreme osmotic conditions, pathogens or pests, for manipulating growth rate in plant cells by modification of the cell cycle pathway, for conferring increased resistance to plant disease, for producing galactomannan, lighn or plant growth regulators, for increasing the rate of homologous recombination in plants, for improving yield by modification of photosynthesis or carbohydrate, nitrogen or phosphorus use and/or uptake or by providing improved plant growth and development under at least one stress condition or for modifying seed oil or protein yield and/or content. This is the amino acid sequence of a plant full length insert is polypeptide that can be used in the recombinant DNA construct of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Antibody therapy; aspartyl (asparaginyl) beta-hydroxylase; AAH; HAAH; cancer; neoplasm; lung tumor; liver tumor; colon tumor; pancreas tumor; prostate tumor; ovary tumor; brain tumor; breast tumor; cytostatic; antibody; Pv.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             The invention relates to a composition comprising an isolated human antibody or its fragment or other variant, where the antibody, the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 useful for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          55.6%; Score 5; DB 8; Length 254; 100.0%; Pred. No. 4.5e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             New composition comprising anti-hydroxylase antibodies, diagnosing or treating cancer, e.g. lung, liver, colon, prostate, ovary, bile duct, brain, or breast cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Anti-HAAH single-chain Fv antibody fragment #6.
                  Claim 1; SEQ ID NO 44061; 15pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim 10; SEQ ID NO 36; 107pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (MASI ) MASSACHUSETTS INST TECHNOLOGY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AEA24176 standard; protein; 259 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          15-NOV-2004; 2004WO-US038197.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               14-NOV-2003; 2003US-0520114P.19-APR-2004; 2004US-0563514P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         11-AUG-2005 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Wittrup DK, Yeung YA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 2005-417728/42.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ||||||
99 KVDDT 103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 254 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WO2005049802-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     02-JUN-2005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AEA24176;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AEA24176
ID AEA2
8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
```

```
(asparaginy) beta-hydroxylase (AAH). The invention also relates to an isolated nucleic acid molecule comprising a sequence encoding a human antibody or its fragment or other variant, where the antibody, the ragment or the other variant specifically binds to human AAH (HAAH), an expression vector comprising the nucleic acid molecule, a host cell comprising the expression vector, a method of modulating an AAH activity in a cell, a method of treating a patient who has a cancer associated with overactive or over expressed AAH, a method for identifying an antibody or its fragment or other variant that specifically binds to an AAH and a method of making a human monoclonal antibody or its fragment or other variant that specifically binds to an AAH. The composition, antibody, nucleic acid, kit and methods are useful for diagnosing or treating cancer, where the cancer cell is a tumor cell of the lung, liver, colon, pancreas, prostate, ovary, bile duct, brain or breast. This sequence represents an anti-HAAH single-chain FV antibody fragment used in the scope of the invention.
                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            rice; post-transcriptional gene silencing; PTGS; plant; trans-activation;
cereal; plant-viral interaction.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Rice protein modulated by post-transcriptional gene silencing SeqID 430.
                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ricke D;
 the other variant specifically binds to an aspartyl
                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Chang H, Briggs SP, Cooper B, Glazebrook J;
ri F, Kreps J, Moughamer T, Provart N, Rick
                                                                                                                                                                                                                                                                                                             55.6%; Score 5; DB 9; Length 259; 100.0%; Pred. No. 4.6e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADJ11794 standard; protein; 266 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       26-SEP-2001; 2001US-0325277P.
27-MAR-2002; 2002US-0368327P.
04-APR-2002; 2002US-0370620P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          26-SEP-2002; 2002US-00259165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   20-MAY-2004 (first entry)
                                                                                                                                                                                                                                                                                                                                               5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ZHU T.
WANG X.
CHANG H.
BRIGGS S P.
COOPER B.
GLAZEBROOK J.
GOFF S A.
KATAGIRI F.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Goff SA, Katagiri F,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KREPS J.
MOUGHAMER T.
PROVART N.
RICKE D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 2003-829655/77.
N-PSDB; ADJ11793.
                                                                                                                                                                                                                                                                                                                             Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                   87 KVDDT 91
                                                                                                                                                                                                                                                                                                                                                                              1 KVDDT 5
                                                                                                                                                                                                                                                                                 Sequence 259 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US2003135888-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Wang X,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            17-JUL-2003.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ADJ11794;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Oryza sp.
                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (ZHUT/)
(WANG/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (CHAN/)
(BRIG/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (GLAZ/)
(GOFF/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RICK/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (KREP/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (MOUG/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PROV/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Zhu T,
                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 97
ADJ11794
8888888888888888888888888888888
                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
```

```
polymucleotides that are modulated by post-transcriptional gene silenting polymucleotides that are modulated by post-transcriptional gene silenting plants via PTGS and the trans-activation of homologous genes due to increased RNA degradation. The present invention describes clusters of polymucleotides from cereals, in particular rice, as well as homologues and the polypeptide sequences derived thereof, where gene expression is altered in response to PTGS. As such, the elucidation of gene silencing mechanisms can lead to more efficiently expressed transgenes, and can also improve the understanding of plant-viral interactions and targeting the suppression of specific plant genes. This polypeptide sequence is a rice protein sequence that is modulated by gene silencing, given in an exemplification of the invention. NOTE: This sequence does not appear in the printed specification but has been obtained in electronic format from the grant of the contraction of contraction o
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New stress-responsive nucleic acid, useful for altering the responsiveness of a plant, e.g. cereal, to an abiotic stress such as cold stress, salt stress or osmotic stress.
                                                                                                                polynucleotide, useful for modulating gene expression within a cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     abiotic stress tolerance; transgenic plant; plant; cereal; agriculture.
                                                                                                                                                                                                                                                    This invention relates to a novel method for identifying isolated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Rice abiotic stress responsive polypeptide SEQ ID NO:6962.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Goff SA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 7; Length 266;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ftp.seqdata.uspto.gov/sequence.html?DocID=20030135888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   55.6%; Score 5; DB 7; Lei
100.0%; Pred. No. 4.7e+02;
ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Glazebrook J,
                                                                                                                                            by posttranscriptional gene silencing.
                                                                                                                                                                                            Claim 7; SEQ ID NO 76; 79pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ABM88716 standard; protein; 278 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (SYGN ) SYNGENTA PARTICIPATIONS AG.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Briggs SP, Cooper B, Gl
T, Provart N, Ricke D,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        22-JUN-2001; 2001US-0300112P.
24-AUG-2001; 2001US-0314662P.
26-SEP-2001; 2001US-032577P.
21-NOV-2001; 2001US-0332132P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        21-JUN-2002; 2002WO-US019668
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity 100...
Lag 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             02-JUN-2005 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 2003-248011/24.
                                 2003-829655/77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              kvbbr 93
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 KVDDT 5
                                 WPI; 2003-829655,
N-PSDB; ADJ11439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 266 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WO2003008540-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Kreps J, Bri
Moughamer T,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Oryza sativa.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  30-JAN-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ABM88716;
                                                                                                                New
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ABM88716
        ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 This invention relates to a novel method for identifying isolated polyuclectides that are modulated by post-transcriptional gene silencing (PTGS). Specifically, it refers to the regulation of gene expression in plants via PTGS and the trans-activation of homologous genes due to increased RNA degradation. The present invention describes clusters of polyuncleotides from cereals, in particular rice, as well as homologues and the polypeptide sequences derived thereof, where gene expression is altered in response to PTGS. As such, the elucidation of gene silencing mechanisms can lead to more efficiently expressed transgenes, and can also improve the understanding of plant. viral interactions and targeting the suppression of specific plant genes. This polypeptide sequence is a rice protein sequence that is modulated by gene silencing, given in an the printed specification but has been obtained in electronic format from the US patent office at
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  rice; post-transcriptional gene silencing; PTGS; plant; trans-activation; cereal; plant-viral interaction.

    polynucleotide, useful for modulating gene expression within a cell
posttranscriptional gene silencing.

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Rice protein modulated by post-transcriptional gene silencing SeqID 76.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Chang H, Briggs SP, Cooper B, Glazebrook J;
ri F, Kreps J, Moughamer T, Provart N, Ricke D;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 7; Length 266;
. 4.7e+02;
ches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ctp.seqdata.uspto.gov/sequence.html?DocID=20030135888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   55.6%; Score 5; DB 7
100.0%; Pred. No. 4.7
iive 0; Mismatches
                                                                                 Disclosure; SEQ ID NO 430; 79pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADJ11440 standard; protein; 266 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      26-SEP-2001; 2001US-0325277P.
27-MAR-2002; 2002US-0368327P.
04-APR-2002; 2002US-0370620P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      26-SEP-2002; 2002US-00259165.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         KATAGA.
KREPS J.
) MOUGHAMER T.
/) PROVART N.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Wang X, Chang
Katagiri F,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BRIGGS S P.
COOPER B.
GLAZEBROOK J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GOFF S A.
KATAGIRI F.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   89 KVDDT 93
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ZHU T.
WANG X.
CHANG H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 266 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US2003135888-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 KVDDT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               20-MAY-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 17-JUL-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Zhu T, Wa
Goff SA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ADJ11440;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Oryza sp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (PROV/)
(RICK/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (WANG/)
(CHAN/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (BRIG/)
(COOP/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ZHUT/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GLAZ/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KREP/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MOUG/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 98
셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HINGE STATE OF THE STATE OF THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠે
```

Gaps

; 0

Katagiri

```
in threating it actual to mover autor, estimate appearance and polypeptides. Also disclosed are vectors, expression cassettes, host cells, and plants containing such polynucleotides. Also disclosed are methods for using the polynucleotides and polypeptides to alter the responsiveness of a plant to abiotic stress. The invention is useful in agriculture. The nucleic acid is useful for determining whether a test plant has been exposed to an abiotic stress condition. It is also useful for selecting an agent that alters abiotic stress regulated polynucleotide expression in a plant cell, and to identify a homolog or ortholog to an abiotic stress responsive polynucleotide. The nucleic acid molecule and the polypeptide encoded by it are useful in altering the responsiveness of a plant to an abiotic stress, such as cold stress, salt stress, osmotic stress or any of their combinations. The present sequence is used in the exemplification of the invention
                                                                      The invention relates to novel abiotic stress responsive polynucleotides
Claim 1; SEQ ID NO 6962; 89pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 278 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
```

Gaps ; 55.6%; Score 5; DB 7; Length 278; 0; Indels 100.0%; Pred. No. 4.9e+02; ive 0; Mismatches 0; 5; Conservative 239 VDDTF 243 2 VDDTF 6 Best Loc Matches ò 셤

ö

Antisense; prokaryotic essential gene; cell proliferation; drug design. Protein encoded by Prokaryotic essential gene #29126. ABU43599 standard; protein; 280 AA. 19-JUN-2003 (first entry) ABU43599;

Staphylococcus haemolyticus WO200277183-A2.

06-SEP-2001; 2001US-00948993. 25-OCT-2001; 2001US-0342923P. 08-FBB-2002; 2002US-00072851. 21-MAR-2001; 2001US-00815242. 21-MAR-2002; 2002WO-US009107 08-FEB-2002; 03-OCT-2002

(ELIT-) ELITRA PHARM INC.

Zyskind JW; Xu HH; Ohlsen KL, Forsyth RA, Haselbeck R, Yamamoto R, Malone C, Carr GJ, Zamudio C, Trawick JD, WPI; 2003-029926/02. Wang L, Wall D,

New antisense nucleic acids, useful for identifying proteins or scre for homologous nucleic acids required for cellular proliferation to isolate candidate molecules for rational drug discovery programs.

N-PSDB; ACA47469.

Claim 25; SEQ ID NO 71523; 1766pp; English.

The invention relates to an isolated nucleic acid comprising any one of the 6213 antisense sequences given in the specification where expression of the nucleic acid inhibits proliferation of a cell. Also included are: (1) a vector comprising a promoter operably linked to the nucleic acid encoding a polypeptide whose expression is inhibited by the antisense

multiple activity of a most cent containing the Vector; (4) an intolated by the antisense nucleic acid; (4) an antibody capable of specifically binding the polypeptide; (6) inhibiting cellular continuous producing the polypeptide; (6) inhibiting cellular proliferation or the activity of a gene in an operon required for proliferation or the activity of a gene in an operon required for cellular proliferation; (8) identifying a compound that inhibits cellular proliferation; (8) identifying a gene required for cellular proliferation or the biological pathway required for proliferation. Or that inhibits cellular proliferation of an identifying a gene required for cellular proliferation of an identifying a gene required for cellular proliferation of an organism acts; (9) manufacturing an antibiotic; (10) profiling a compound's activity; (11) a culture comprising strains in which the gene or which the test compound that inhibits profileration of an organism. The antisense nucleic acids required cor expressed or underexpressed; (12) determining the extent compound's activity; (11) a culture comprising strains in which the gene product is overexpressed or underexpressed; (12) determining the extent compound's activity; (13) a culture compound that inhibits the product is overexpressed or underexpressed; (12) determining the extent compound that inhibits the proliferation of an organism. The antisense nucleic acids required for cellular proliferation in cells other than S. aureus, S. typhimurium, CC drug discovery programs, or for screening for homologous nucleic acids required for proliferation in cells other than S. aureus, S. typhimurium, CC drug discovery programs, or for screening to the printed source is encoded by one of the target prockaryotic essential genes. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at Length 280; Sequence 280 AA; Query Match %\$

Gaps ö 0; Indels 55.6%; Score 5; DB 6; Ler 100.0%; Pred. No. 4.9e+02; 100.0%; Pred. ... Local Similarity 100. 1es 5; Conservative Matches

ö

174 KVDDT 178

g δ

RESULT 101

1 KVDDT 5

ABO82245 standard; protein; 285 AA. (first entry) 29-JUL-2004 ABO82245; AB082245

Bacterial infection; Pseudomonas aeruginosa infection; antibacterial. Pseudomonas aeruginosa polypeptide #14420. Pseudomonas aeruginosa. US6551795-B1. 22-APR-2003.

(GENO-) GENOME THERAPEUTICS CORP. 98US-0074788P. 98US-0094190P. 18-FEB-1998; 27-JUL-1998;

or screening

99US-00252991.

18-FEB-1999;

ä Bush Rubenfield MJ, Nolling J, Deloughery C, WPI; 2003-615309/58. N-PSDB; ABD15816.

Novel isolated nucleic acid encoding Pseudomonas aeruginosa polypeptide, useful as molecular targets for diagnostics, prophylaxis and treatment of pathological conditions resulting from bacterial infection.

Disclosure; SEQ ID NO 30991; 455pp; English

```
The invention relates to Pseudomonas aeruginosa polypeptides and the polymucleotides encoding them. The sequences are useful in diagnosis and therapy of pathological conditions, as molecular targets for diagnostics, prophylaxis and treatment of pathological conditions resulting from a bacterial infection, for evaluating a compound, such as a polypeptide, for the ability to bind a P aeruginosa nucleic acid, as components of effective antibacterial targets, as targets for antibacterial drugs, including anti-P. aeruginosa drugs, as templates for recombinant opponents for diagnosis and/or treatment of P. aeruginosa-derived peptides or polypeptides, as target components for diagnosis and/or treatment of P. aeruginosa-derived peptides or polypeptides, as target infection, and in detection of P. aeruginosa sequences or other sequences of pseudomonas species using biochip technology. Sequences ABO67826-ABO8436 represent P. aeruginosa polypeptides of the invention. Note: The sequence data for this patent did not form part of the printed sequence of processing the printed sequence data for this patent did not form part of the printed sequence of processing the printed sequence of the printed seque
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The present invention relates to a composition comprising an isolated amino acid sequence that comprises a portion of human mitochondrial malate dehydrogenase protein (MDH), particularly the minimun activator of DNA fragmentation and activator of DNA fragmentation sequences. The composition is useful for treating cancer chosen from liver cancer, gastric cancer, head cancer, neck cancer, lung cancer, breast cancer,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         New compositions comprising proteins and encoding nucleic acids having a DNA nuclease or cell killing activity and are operably linked to cancer cell binding antibodies or growth factors, useful for treating cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          cytostatic; immunotoxin; cancer; mitochondrial malate dehydrogenase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        55.6%; Score 5; DB 7; Length 285; 100.0%; Pred. No. 5e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Wilson DS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (PALO-) PALO ALTO INST MOLECULAR MEDICINE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 6; SEQ ID NO 24; 225pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ADR46377 standard; protein; 297 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Nock SR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                seqdata.uspto.gov/sequence.html
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                02-FEB-2003; 2003US-00444191.
03-FEB-2003; 2003US-0444191P.
08-APR-2003; 2003US-0460855P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            02-FEB-2004; 2004WO-US002974
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity 100.00
Lhan S; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            04-NOV-2004 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   enzyme; human; MDH; EndoG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Wright SC, Larrick JW,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 2004-604434/58.
N-PSDB; ADR46378.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human EndoG protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            196 KVDDT 200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 285 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WO2004070012-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        19-AUG-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADR46377;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ADR46377
g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  polypeptides, and their related nucleic acids. The TAT polypeptides are overexpressed in cancer tissues compared to normal tissues, and may thus serve as effective targets for the diagnosis and treatment of cancer in mammals. The invention also relates to nucleic acid and polypeptide sequences at least 80% identical to the TAT nucleic acids and polypeptides, expression vectors and host cells comprising a TAT nucleic acid; an antibody specific for a TAT polypeptide; a peptide or organic molecule which binds to a TAT polypeptide; fusion proteins comprising a
prostate cancer, cervical cancer, pancreatic cancer, colon cancer, ovarian cancer, stomach cancer, oesophagus cancer, mouth cancer, tongue cancer, gum cancer, skin cancer, muscle cancer, heart cancer, bronchial cancer, cartilage cancer, bone cancer, testis cancer, kidney cancer, lymphoma cancer, ucerus cancer, bladder cancer, bone marrow cancer, lymphoma cancer, spleen cancer, thymus cancer, brain cancer, neuron cancer, gall bladder cancer, collar cancer, brain cancer, neuron cancer, lymphoma, leukaemia, mesothelioma, lymphoma, leukaemia, melanoma, squamous cell carcinoma, osteosarcoma, and Kaposi's sarcoma. The present sequence is a protein shown in the exemplification of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Tumour-associated antigenic target (TAT) polypeptide PRO70290, SEQ:2762.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The invention relates to human tumour-associated antigenic target (TAT)
                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New tumor-associated antigenic target polypeptides and nucleic acids,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Tumour-associated antigenic target; TAT; human; overexpression; catumour; diagnosis; cell proliferative disorder; breast cancer; colorectal cancer; lung cancer; ovarian cancer; liver cancer; central nervous system cancer; badder cancer; pancreatic cancer; cervical cancer; melanoma; leukaemia; hybridisation probe; chromosome identification; chromosome mapping; gene mapping;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                useful in preparing a medicament for treating or detecting a
proliferative disorder, e.g. breast, lung, colorectal, ovarian or
                                                                                                                                                                                                                                                                                                          ;
0
                                                                                                                                                                                                                                                                  Length 297;
                                                                                                                                                                                                                                                                                                          0; Indels
                                                                                                                                                                                                                                                                    DB 8; Le
                                                                                                                                                                                                                                                                55.6%; Score 5; DB 8
100.0%; Pred. No. 5.2
iive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 12; SEQ ID NO 2762; 7273pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ABM81069 standard; protein; 297 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     29-SEP-2003; 2003WO-US028547.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            02-OCT-2002; 2002US-0414971P
                                                                                                                                                                                                                                           Query Match
Best Local Similarity 10v.v.
Fee 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        18-NOV-2004 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Zhou Y;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gene therapy; cytostatic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (GETH ) GENENTECH INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 2004-347921/32.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        prostate cancer or
                                                                                                                                                                                                                                                                                                                                                                                         156 DDTFY 160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Wu TD, Zhang Z,
                                                                                                                                                                                                                                                                                                                                                 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      N-PSDB; ACN38936.
                                                                                                                                                                                                                             Sequence 297 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WO2004030615-A2.
                                                                                                                                                                                                                                                                                                                                                 3 DDTFY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             15-APR-2004.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ABM81069;
                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ABM81069
      88366666666888
                                                                                                                                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                                                                                                                                                       셤
```

ADT58018 standard; protein; 300 AA.

RESULT 105

ADT58018;

253 KVDDT 257

ß

1 KVDDT

ઠે 요

```
ö
TAT polypeptide; and methods and compositions for the treatment or diagnosis of cancer in mammals. TAT polypeptides, nucleic acids, antibodies, antagonists, binding molecules and compositions are useful for diagnosing or treating a cell proliferative disorder associated with increased TAT expression, particularly cancers such as breast cancer, colorectal cancer, lung cancer, ovarian cancer, liver cancer, bladder acancer, pancreatic cancer, critical cancer, cancers of the central nervous system, melanoma and leukaemia. TAT nucleic acids may further be used as hybridisation probes, in chromosome and gene mapping, in chromosome identification and in gene therapy. The present sequence represents a TAT polypeptide of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The invention relates to a novel purified or isolated Cryptococcus neoformans nucleic acid molecule comprising a sequence encoding a polypeptialed comprising a sequence not given in the specification. A polymucleotide of the invention has fungicide activity, and may have a use in gene therapy. The nucleic acid is useful for preparing a composition for treating an infection caused by Cryptococcus neoformans. The present sequence represents a C. neoformans sequence of the invention. Note: The sequence data for this patent is not represented in the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pat_sequences.
                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        New nucleic acid, useful for preparing a composition for treating an infection caused by Cryptococcus neoformans.
                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                          Length 297;
                                                                                                                                                                                                                                                                                                          0; Indels
                                                                                                                                                                                                                                                                    55.6%; Score 5; DB 8; Ler 100.0%; Pred. No. 5.2e+02; ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C. neoformans amino acid sequence SEQ ID NO:3087.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 9; SEQ ID NO 3087; 136pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ADB70043 standard; protein; 299 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       fungicide; gene therapy; infection
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    17-DEC-2002; 2002WO-US040225.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          17-DEC-2001; 2001US-0341261P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               04-DEC-2003 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (ELIT-) ELITRA PHARM INC.
                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eroshkin AM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Cryptococcus neoformans
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
Lac 5; Conserve
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WPI; 2003-533017/50.
N-PSDB; ADB68960.
                                                                                                                                                                                                                                                                                       Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                 156 DDTFY 160
                                                                                                                                                                                                                                                                                                                                             3 DDTFY 7
                                                                                                                                                                                                                                  Sequence 297 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WO2003052076-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 299 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  26-JUN-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Zamudio C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ADB70043;
                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 104
                                                                                                                                                                                                                                                                                                        Matches
           88888888888888888
                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                               a
```

```
The invention features a teconomization was constitute completely as a teconomization of 5544 amino acid sequences (CDNAs SEQ ID NO: 5554.) and encoding a polypeptide with any of 5544 amino acid sequences (SEQ ID NO: 5555-11089). The CDNAs and proteins are from corn, soybean, Arabidopsis, wheat and rape but the specification does not indicate which sequences is derived from which organism. Also included is a method of producing a plant having an improved property, comprising transforming a plant with a recombinant DNA construct comprising a promoter region of the collypeptide associated with the property, and growing the transformed collypeptide associated with the property, and growing the transformed collypeptide associated with the property, and growing the transformed complaining growth rate in plant colls by modification of the cell cycle pathway, for improving plant tolerance, for production, for production of plant growth regulators, for ingroving plant tolerance to herbicides, for increasing the rate of complaining plant tolerance to herbicides, for increasing the rate of plant tolerance to extreme compute for ingroving plant tolerance to extreme compute for ingrovement by modification of plant tolerance to extreme compute for ingrovement by modification of plant colerance to extreme compute for ingrovement by modification of conditions, for improving plant tolerance to pathogens or pests, for yield improvement by modification of conditions and/or content, for yield improvement by modification of carbohydrate, nitrogen or phosphorus use and/or uptake and for yield improvement by providing improvement polyment under at least one stream conditions are conditions.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               New recombinant DNA constructs useful in the field of biochemistry and genetics, and in particular for producing transgenic plants with improved biological characteristics.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        also encode a plant transcription factor. The methods and compositions of the present invention are useful in the field of biochemistry and genetics, in particular for producing transgenic plants with improved biological characteristics such as increased yield, improved nitrogen
                                                                                                                                           Plant; transgenic; cold tolerance; growth rate; drought tolerance; disease resistance; galactomannan production; plant growth regulator; heat tolerance; herbicide tolerance; lignin production; extreme osmotic condition tolerance; pathogens resistance; pest resistance; yield improvement; seed oil yield; seed protein yield.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     development under at least one stress condition. The polynucleotide may
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            invention relates a recombinant DNA construct comprising a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim 2; SEQ ID NO 8095; 14pp; English.
                                                                                              Plant polypeptide, SEQ ID 8095.
                                                                                                                                                                                                                                                                                                                                                                                                                                                       18-DEC-2003; 2003US-00739930.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         28-APR-2003; 2003US-00424599
28-APR-2003; 2003US-00425115
                                               (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 2004-757369/74.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (KOVA/) KOVALIC D K.
                                                                                                                                                                                                                                                                                                                                                        US2004216190-A1.
                                                                                                                                                                                                                                                                                                    Viridiplantae.
                                            13-JAN-2005
                                                                                                                                                                                                                                                                                                                                                                                                          28-OCT-2004.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Kovalic DK;
```

ö

Gaps

ö

55.6%; Score 5; DB 7; Length 299; 100.0%; Pred. No. 5.2e+02; Live 0; Mismatches 0; Indels

Conservative

```
KVDDT
                                                                                                                                            17-OCT-2000
                                                                                                                                                                                                                                                              EP1033405-A2
                                                                                                                                                                                                                                                                                      06-SEP-2000,
                                                                                                                                                                                                                                                                                                                                                                                            29-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                08-APR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                          16-APR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                       19-APR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            23-APR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                30-APR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               11-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8-MAY-1999;
9-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                35-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                03-JUN-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            16-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                 25-MAR-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MAY-1999
                                                                                                                      AAG20740;
                                                                          RESULT 107
                                   셤
                                                                                                           ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        New Acinetobacter baumanii proteins and nucleic acids, useful as reagents for diagnosing a bacterial disease, as components of antibacterial vaccines, as targets for antibacterial drugs, or as biocontrol agents for
flow, increasing plant tolerance to cold or heat, improving plant tolerance to extreme osmotic and drought conditions, and improving plant tolerance to plant pester or pathogens. They can also be used in physical arrays of molecules, plant breeding markers, computer-based storage and analysis systems. The present sequence is one of the 5544 plant protein sequences of the invention. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in sequence. Last of the printed Specification, but was obtained in sequence. Last of the printed by the SPTO at
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The invention relates to isolated Acinetobacter baumannii nucleic acids. The A. baumannii nucleic acids and polypeptides are useful as reagents for diagnosing a bacterial disease, as components of antibacterial vaccines, as targets for antibacterial drugs, to detect the presence of A. baumannii and other Acinetobacter species in a sample, in screening compounds for the ability to interfere with the A. baumannii life cycle or to inhibit A. baumannii infection, and as biocontrol agents for plants. The present sequence represents the amino acid sequence of an A.
                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                     Acinetobacter baumannii, bacterial disease; antibacterial; vaccine;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ;
                                                                                                                                                                    ö
                                                                                                                                           55.6%; Score 5; DB 8; Length 300; 100.0%; Pred. No. 5.3e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity 100.0%; Pred. No. 5.3e+02; 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Example; SEQ ID NO 6685; 328pp; English.
                                                                                                                                                                                                                                                                                                                                              Acinetobacter baumannii protein #2559.
                                                                                                                                                                                                                                                                        ADA35398 standard; protein; 301 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (GENO-) GENOME THERAPEUTICS CORP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            99US-00328352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   98US-0088701P
                                                                                                                                                                                                                                                                                                                     (first entry)
                                                                                                                                                                  5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                        Acinetobacter baumannii
                                                                                                                                                                                                                                                                                                                                                                                 plant biocontrol agent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 2003-576092/54.
N-PSDB; ADA31272.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                       Local Similarity
                                                                                                                                                                                                          142 KVDDT 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Bush D;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     baumannii protein.
                                                                                                                                                                                        1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 301 AA;
                                                                                                                     Sequence 300 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            04-JUN-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   09-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                               US6562958-B1
                                                                                                                                                                                                                                                                                                                       20-NOV-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                     13-MAY-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Breton G,
                                                                                                                                                                                                                                                                                               ADA35398;
                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             plants.
                                                                                                                                                                                                                                                 RESULT 106
                                                                                                                                                                  Matches
 888888888888888
                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                           δ
```

```
Protein identification; signal transduction pathway; metabolic pathway; hybridisation assay; genetic mapping; gene expression control; promoter; termination sequence.
                                                                                                                                                                                                              Arabidopsis thaliana protein fragment SEQ ID NO: 23044.
                                                                                                              AAG20740 standard; protein; 302 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         99US-0132048P.
99US-0132407P.
99US-0132484P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      99US-0139119P.
99US-0139452P.
99US-0139453P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             99US-0123548P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             99US-0127462P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            99US-0129845P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            99US-0130449P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            99US-0130891P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            99US-0131449P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             99US-0132485P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         99US-0132486P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         99US-0132863P.
99US-0134256P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       99US-0134219P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99US-0134768P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99US-0134941P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        99US-0135629P.
                                                                                                                                                                                                                                                                                                                                                                                                             25-FEB-2000; 2000EP-00301439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              99US-0125788P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           99US-0126264P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           99US-0126785P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              99US-0130077P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         99US-0134218P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         99US-0134370P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         99US-0135124P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99US-0135353P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         99US-0137222P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         99US-0137502P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         99US-0137724P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99US-0138094P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       99US-0138540P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        99US-0136392P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           99US-0136782P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99US-0137528P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              99US-01
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              99US-01
                                                                                                                                                                                                                                                                                                              Arabidopsis thaliana.
                              215 KVDDT 219
ß
```

```
990S-0139452P.
990S-0139454P.
990S-0139455P.
990S-0139456P.
990S-0139460P.
990S-0139461P.
990S-0139461P.
990S-0139461P.
990S-0139461P.
990S-0139461P.
990S-0139461P.
990S-0139461P.
990S-0139461P.
990S-014085P.
990S-014085P.
990S-014085P.
990S-014085P.
990S-014085P.
990S-014085P.
990S-014128P.
990S-014433P.
990S-014538P.
990S-014538P.
990S-014531P.
17 - JUN - 1999;

18 - JUN - 1999;

22 - JUN - 1999;

23 - JUN - 1999;

23 - JUN - 1999;

24 - JUN - 1999;

24 - JUN - 1999;

28 - JUN - 1999;

28 - JUN - 1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                     11-AUG-1999;
12-AUG-1999;
13-AUG-1999;
```

'Match 55.6%; Score 5; DB 3; Le.
Local Similarity 100.0%; Pred. No. 5.3e+02;
tes 5; Conservative 0; Mismatches 0; 990S-0148684P.
990S-0149168P.
990S-0149426P.
990S-0149426P.
990S-0149929P.
990S-0149930P.
990S-0150864P.
990S-0151808P.
990S-015929P.
990S-016098P.
990S-016098P. 16-AUG-1999;
20-AUG-1999;
20-AUG-1999;
20-AUG-1999;
23-AUG-1999;
23-AUG-1999;
22-AUG-1999;
22-AUG-1999;
27-AUG-1999;
27-AU Query Ma Best Loc Matches

RESULT 108

KVDDT 5

151

8 8

ö

Gaps

ö

Length 302;

```
셤
                            ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               promoter functional in a plant cell, where the promoter is positioned to provide for expression of a polynucleotide encoding a polypeptide from a microbial source. The invention also relates to a transformed plant comprising the recombinant DNA construct and a method of producing a transformed plant comprising the recombinant DNA construct and a method of producing a transformed plant thaving an improved property. The plant is a crop plant comprising an improved property comprises transformed plant with the recombinant DNA construct and growing the transformed plant with the recombinant DNA construct is useful for improving plant with the comprise or polypeptide is useful for improving plant properties. The recombinant DNA construct is useful for producing plants with compressed resistance to plant disease, better growth rate by modification of the cell cycle pathway with plant growth regulators, increased resistance to plant disease, better growth rate by modification of the cell cycle pathway with plant growth regulators, increased resistance to plant disease, better growth rate by modification of the cell cycle pathway with plant growth regulators, increased resistance to plant disease, better growth rate by modification of the cell cycle pathway with plant growth regulators, increased resistance to plant disease, better growth rate by modification of phosphorus use and/or uptake, by modification of carbohydrate, nitrogen or providing improved plant growth and development under at least one stress condition, improved plant growth and development under at least one stress providing improved plants, by modification of protocymthesis or by providing improved plants, by modification or improved galactomannan production. This sequence represents a bacterial polypeptide used in the scome of the printed specification but was obtained in electronic form pat of the printed specification work of provident in the did not form the from used at a ment of the printed specification of pathods.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     New recombinant DNA construct comprising a promoter positioned to provide for expression of a polynucleotide encoding a polypeptide from a microbial source, useful for producing plants with improved properties.
                                                                                                                                                                                                                  Recombinant DNA construct; transformed plant; improved plant property;
                                                                                                                                                                                                                                         cold tolerance; heat tolerance; drought tolerance; herbicide; osmosis; pathogen tolerance; pest tolerance; plant disease resistance; cell cycle pathway modification; plant growth regulator; homologous recombination; seed oil yield; protein yield; carbohydrate; nitrogen; phosphorus; photosynthesis; lignin; galactomannan; bacterial polypeptide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The invention relates to a recombinant DNA construct comprising a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            format from USPTO at segdata.uspto.gov/sequence.html.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Chen X, Goldman BS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 1; SEQ ID NO 4226; 122pp; English.
                       ADN21573 standard; protein; 306 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Hinkle GJ, Slater SC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     20-FEB-2003; 2003US-00369493.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     21-FEB-2002; 2002US-0360039P
                                                                                                                                                                         Bacterial polypeptide #4226.
                                                                                                                      (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAO Y.
HINKLE G J.
SLATER S C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GOLDMAN B S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 2004-061375/06.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US2003233675-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 306 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CHEN X.
                                                                                                                      02-DEC-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      18-DEC-2003
                                                                       ADN21573;
                                                                                                                                                                                                                                                                                                                                                                                                                       Bacteria.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CAOY/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (dollb/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Cao Y,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HINK/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SLAT/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CHEN/
ADN21573
```

0; Gaps

S5.6%; Score 5; DB 8; Length 306; Similarity 100.0%; Pred. No. 5.4e+02; 5; Conservative 0; Mismatches 0; Indels

Query Match Best Local Similarity Matches 5; Conserv

```
Protein identification; signal transduction pathway; metabolic pathway; hybridisation assay; genetic mapping; gene expression control; promoter; termination sequence.
                                                                                                            Arabidopsis thaliana protein fragment SEQ ID NO: 64786.
                                                          AAG51074 standard; protein; 307 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             99US-0139119P.
99US-0139452P.
99US-0139453P.
                                                                                                                                                                                                                 25-FEB-2000; 2000EP-00301439
                                                                                                                                                                                                                                                  99US-0123548P
                                                                                                                                                                                                                                                                   99US-0126264P
                                                                                                                                                                                                                                                                          99US-0126785P
                                                                                                                                                                                                                                                                                    99US-0127462P
                                                                                                                                                                                                                                                                                           99US-0128234P.
                                                                                                                                                                                                                                                                                                            99US-0129845P.
                                                                                                                                                                                                                                                                                                                             99US-0130449P
                                                                                                                                                                                                                                                                                                                                     99US-0130510P
                                                                                                                                                                                                                                                                                                                                              99US-0130891P
                                                                                                                                                                                                                                                                                                                                                      99US-0131449P
                                                                                                                                                                                                                                                                                                                                                             99US-0132048P.
                                                                                                                                                                                                                                                                                                                                                                      99US-0132407P.
                                                                                                                                                                                                                                                                                                                                                                              99US-0132484P
                                                                                                                                                                                                                                                                                                                                                                                       99US-0132485P
                                                                                                                                                                                                                                                                                                                                                                                              99US-0132486P.
                                                                                                                                                                                                                                                                                                                                                                                                                99US-0132863P
                                                                                                                                                                                                                                                                                                                                                                                                                        99US-0134256P.
                                                                                                                                                                                                                                                                                                                                                                                                                                 99US-0134218P
                                                                                                                                                                                                                                                                                                                                                                                                                                         99US-0134219P.
99US-0134221P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                          99US-0134370P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   99US-0134768P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99US-0134941P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           99US-0135353P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    99US-0135629P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            99US-0136021P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    99US-0136392P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             99US-0136782P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     99US-0137222P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              99US-0137528P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     99US-0137502P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      99US-0138094P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              99US-0138540P
                                                                                           18-OCT-2000 (first entry)
                                                                                                                                                              Arabidopsis thaliana.
                153 DDTFY 157
7
3 DDTFY
                                                                                                                                                                               EP1033405-A2
                                                                                                                                                                                                                                                                                   01-APR-1999;
06-APR-1999;
08-APR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       16-JUN-1999;
                                                                                                                                                                                                                                                                                                                                                             1999;
                                                                                                                                                                                                06-SEP-2000
                                                                                                                                                                                                                                                  09-MAR-1999
                                                                                                                                                                                                                                                                          29-MAR-1999
                                                                                                                                                                                                                                                                                                            16-APR-1999
                                                                                                                                                                                                                                                                                                                    19-APR-1999,
                                                                                                                                                                                                                                                                                                                             21-APR-1999
                                                                                                                                                                                                                                                                                                                                              23-APR-1999
                                                                                                                                                                                                                                                                                                                                                      28-APR-1999
                                                                                                                                                                                                                                                                                                                                                                       10-APR-1999
                                                                                                                                                                                                                                                                                                                                                                             04-MAY-1999
                                                                                                                                                                                                                                                                                                                                                                                       35-MAY-1999
                                                                                                                                                                                                                                                                                                                                                                                                06-MAY-1999
                                                                                                                                                                                                                                                                                                                                                                                                         MAY-1999
                                                                                                                                                                                                                                                                                                                                                                                                                MAY-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                14-MAY-1999;
14-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MAY-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   20-MAY-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            21-MAY-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     27-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-NUL-1099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              03-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      04-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MAY-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               17-JUN-1999
                                                                           AAG51074;
                                                                                                                                                                                                                                                                                                                                      23-APR-
                                                                                                                                                                                                                                                                                                                                                             0-APR-
                                                                                                                                                                                                                                                                                                                                                                                                                        11-MAY-
                                                                                                                                                                                                                                                                                                                                                                                                                                                           4-MAY-
                                         RESULT 109
                                                  AAG5107
```

90S - 0139495 90S - 0139455 90S - 0139455 90S - 0139455 90S - 013945 90S - 0139465 90S - 0139465	9US-0140359 9US-0140699 9US-0140699 9US-0141287 9US-0141287 9US-0142860 9US-0142950 9US-0142920 9US-0142920 9US-0142920 9US-0142920 9US-0142920 9US-0142920 9US-0142920 9US-0142930 9US-0144005 9US-0144332 9US-0144333 9US-0144333 9US-0144333 9US-0144333 9US-0144333	0.000 0.0000 0.00000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.
8 - JUN - 199 8 - JU	8 - UUN - 1999 8 - UUN - 1999 9 - UUN - 1999 1 - UUL - 1999 1 - UUL - 1999 8 - UUL - 1999 9 - UUL - 1999 1 - UUL - 1999	ANGEROR ANGERO
	* * * * * * * * * * * * * * * * * * * *	

PR 13-AUC-1999; 9918-0144368 P
PR 117-AUC-1999; 9918-0144372 P
PR 17-AUC-1999; 9918-0144922 P
PR 20-AUC-1999; 9918-0149922 P
PR 21-AUC-1999; 9918-014992 P
PR 21-AUC-1999; 9918-014992 P
PR 21-AUC-1999; 9918-0151066 P
PR 21-AUC-1999; 9918-015106 P
PR 21-AUC-1999; 9918-015656 P
PR 21-AUC-1999; 9918-01566 P
PR 21-AUC-1999; 9918-0156 P
PR 21-AUC-199

||||| 155 KVDDT 159

8 8

KVDDT 5

н

ö

Gaps

ö

RESULT 110

```
990S-0139460P-
990S-0139461P-
990S-0139461P-
990S-0139462P-
990S-0139763P-
990S-0139763P-
990S-0139763P-
990S-0140354P-
990S-0140354P-
990S-0140354P-
990S-0140331P-
990S-014232P-
990S-014232P-
990S-0144332P-
990S-0144332P-
990S-0144333P-
990S-0144333P-
990S-0144333P-
990S-0144333P-
990S-0144333P-
990S-0144333P-
990S-014593P-
990S-014793P-
990S-014793P-
990S-014793P-
990S-014793P-
990S-014793P-
990S-014793P-
990S-014793P-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        23 - JUL - 1999;
26 - JUL - 1999;
27 - JUL - 1999;
27 - JUL - 1999;
27 - JUL - 1999;
28 - JUL - 1999;
02 - AUG - 1999;
03 - AUG - 1999;
04 - AUG - 1999;
06 - AUG - 1999;
07 - AUG - 1999;
08 - AUG - 1999;
11 - AUG - 1999;
12 - AUG - 1999;
13 - AUG - 1999;
14 - AUG - 1999;
16 - AUG - 1999;
17 - AUG - 1999;
18-JUN-1999,
18-JUN-1999,
18-JUN-1999,
18-JUN-1999,
18-JUN-1999,
22-JUN-1999,
23-JUN-1999,
23-JUN-1999,
23-JUN-1999,
23-JUN-1999,
23-JUN-1999,
30-JUN-1999,
30-JU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        22-JUL-1999
    Protein identification; signal transduction pathway; metabolic pathway; hybridisation assay; genetic mapping; gene expression control; promoter; termination sequence.
                                                                                      Arabidopsis thaliana protein fragment SEQ ID NO: 14507.
             AAG14587 standard; protein; 307 AA
                                                                                                                                                                                                                                                                    99US-0121825P.
99US-0123180P.
99US-012548P.
99US-0125784P.
99US-012642P.
99US-012642P.
99US-012642P.
99US-013642P.
99US-0130449P.
99US-0130449P.
99US-0131444P.
99US-0132484P.
99US-0134218P.
99US-0134218P.
99US-0134218P.
99US-0134218P.
99US-0134218P.
99US-0134218P.
99US-0134218P.
99US-0134218P.
99US-0134218P.
99US-013422P.
99US-0137222P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           99US-0138540P.
99US-01381947P.
99US-0139119P.
99US-0139452P.
99US-0139452P.
99US-0139454P.
99US-0139454P.
99US-0139456P.
99US-0139456P.
                                                                                                                                                                                                                                               25-FEB-2000; 2000EP-00301439
                                                             17-OCT-2000 (first entry)
                                                                                                                                                                    Arabidopsis thaliana
                                                                                                                                                                                                                                                                      25-FEB-1999,
05-MAR-1999,
23-MAR-1999,
25-MAR-1999,
25-MAR-1999,
01-APR-1999,
06-APR-1999,
06-APR-1999,
19-APR-1999,
19-APR-1999,
23-APR-1999,
23-APR-1999,
23-APR-1999,
30-APR-1999,
30-APR-1999,
30-APR-1999,
30-APR-1999,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    06-MAX-1999;
06-MAX-1999;
07-MAX-1999;
11-MAX-1999;
14-MAX-1999;
14-MAX-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 16-JUN-1999;
17-JUN-1999;
18-JUN-1999;
18-JUN-1999;
18-JUN-1999;
18-JUN-1999;
18-JUN-1999;
                                                                                                                                                                                            EP1033405-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            14-MAY-1999;
18-MAY-1999;
19-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           24 - MAY - 1999;
25 - MAX - 1999;
28 - MAX - 1999;
29 - JUN - 1999;
01 - JUN - 1999;
07 - JUN - 1999;
08 - JUN - 1999;
10 - JUN - 1999;
11 - JUN - 1999;
                                                                                                                                                                                                                       06-SEP-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  20-MAY-1999
21-MAY-1999
                                     AAG14587;
 AAG14587
```

```
vulnerary; CNS-gen.; gene therapy; diagnostic; forensic; mapping; bNA purification; protein purification; osteoarthritis; antiarthritic; osteopathic; musculoskeletal disease; osteopathis; endocrine disease; periodontal disease; antiinflammatory; mouth disease; burns; injury; peripheral neuropathy; Alzheimers disease; neuroprotective; nootropic; degeneration; parkinsons disease; antiparkinsonian; neurological disease; carbirovascular ischemia; cerebroprotective; vasotropic; cardiovascular disease; autoimmune disease; immunosuppressive; immune disease; viral infection; virucide; infection; cancer;
                                                                                                                                                                                                                                    Zhang J, Ren F,
Zhao Q, Wang D,
     Novel human polypeptide SEQ ID NO 916.
                                                                                                                                                                                                                                            Ghosh M, Xue A, Asundi V, 2
Wehrman T, Weng G, Boyle B;
                                                                                                                                                                                               14-MAR-2003; 2003US-00389559.
                                                                                                                                                                             11-MAR-2004; 2004WO-US007412.
                                                                                                                                                                                                                                   Tang TY, Wang J, Wang ZW,
Ghosh M, Xue A, Asundi V,
                                                                                                                                                                                                                                                                                                                            infection, or cancer.
                                                                                                       cytostatic; neoplasm.
                                                                                                                                                                                                                                                                       WPI; 2005-417730/42.
                                                                                                                                                                                                                (NUVE-) NUVELO INC.
                                                                                                                                                                                                                                                                               N-PSDB; AEA19655
                                                                                                                                          WO2005049806-A2.
                                                                                                                         Homo sapiens.
                                                                                                                                                           02-JUN-2005.
    8XXCCCCCCCCCCCCCCCCCCCCCCCCCCCCX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    55.6%; Score 5; DB 3; Length 307; 100.0%; Pred. No. 5.4e+02; ive 0; Mismatches 0; Indels
99US-0149902P.
99US-0149930P.
99US-0150684P.
99US-0151066P.
99US-0151066P.
99US-0151030P.
99US-0151303P.
99US-0151303P.
99US-0151313P.
99US-0153730P.
99US-0153730P.
99US-0153739P.
99US-0154739P.
99US-0154739P.
99US-0154739P.
99US-0154739P.
99US-0155659P.
99US-0156329P.
99US-0157131P.
99US-0157131P.
99US-0159234P.
                                                                                                                                                                                                                                                                                                                                                                     99US-0160814P.
99US-0160815P.
99US-0160980P.
99US-0160981P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  99US-0161992P.
99US-0161993P.
99US-0162142P.
                                                                                                                                                                                                                                                                                                                                                                                                           99US-0160989P.
                                                                                                                                                                                                                                                                                                                                                                                                                             99US-0161405P
                                                                                                                                                                                                                                                                                                                                                                                                                                     99US-0161406P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
Loca 5; Conserve
                                  27-Aug-1999;
27-Aug-1999;
27-Aug-1999;
30-Aug-1999;
31-Aug-1999;
07-SEP-1999;
10-SEP-1999;
13-SEP-1999;
                                                                                                                                                                        28-SEP-1999;
04-0CT-1999;
04-0CT-1999;
06-0CT-1999;
07-0CT-1999;
13-0CT-1999;
13-0CT-1999;
13-0CT-1999;
14-0CT-1999;
14-0CT-1999;
14-0CT-1999;
                                                                                                                                                                                                                                                                                                                                                                                               22-0CT-1999;
22-0CT-1999;
25-0CT-1999;
25-0CT-1999;
                                                                                                                             -SEP-1999
                                                                                                                                               22-SEP-1999
                                                                                                                                                         -SEP-1999
                                                                                                                                                                 24-SEP-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                    25-OCT-1999
26-OCT-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                      26-OCT-1999
26-OCT-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           28-OCT-1999
29-OCT-1999
                                                                                                                                                                                                                                                                                                                                            21-OCT-1999
                                                                                                                                                                                                                                                                                                                                                   21-0CT-19
21-0CT-19
21-0CT-19
21-0CT-19
22-0CT-19
```

Zhou P, Ma Y; Goodrich R, Chen R;

The invention describes a new isolated polynucleotide (I) encoding a polypeptide with biological activity comprising: a nucleotide sequence of that hybridization conditions; or a to the sequence having greater than 99% sequence that hybridization conditions; or a nucleotide sequence that hybridization conditions; or a nucleotide sequence having greater than 99% sequence identity with the sequence of (i). Also described are: a(i) (expression) vector comprising (i); a host cell genetically engineered to comprise (I) operatively, associated with a regulatory sequence that modulates expression of the polynucleotide in the host cell; an isolated polypeptide comprising a sequence of SEQ ID NOS: 568-1134 (fully defined), where the polypeptide of (i); and a sequence of SEQ ID NOS: 568-1134 (fully defined), where the polypeptide of (i); and a sequence of SEQ ID NOS: 1-567, a composition comprising the polypeptide of (i); and a carrier; an antibody directed against the polypeptide of (i); and a carrier; an antibody directed against the polypeptide of (i); and a collection of polymucleotide for identifying a compound that binds to the polypeptide of (i); and a method for identifying a compound that binds to the collection of polymucleotides, where the collection comprising of at collection of polymucleotides, where the collection comprising of the sequences of SEQ ID NOS: 1-567 encoding a polypeptide with biological activity, which comprises any of the amino acid sequence of SEQ ID NOS: 1-567 encoding a polypeptide with biological sequences and methods are useful in diagnostics, forensic, and gene mapping, in identifying of mutuations responsible for genetic disorders or types of date and products dependent on DNA and amino acid sequences. The composition and method are useful for treating a disease or disorder, e.g. peripheral disease, Alzheimer, variance of a novel polypeptide of the invention. New polynucleotide encoding a polypeptide with biological activity, useful for treating a disease or disorder, e.g. osteoarthritis, burns, CNS and peripheral disease, stroke, autoimmune disorders, viral Claim 20; SEQ ID NO 916; 500pp; English.

ô

Gaps ö

Conservative

8

Sequence 308 AA,

ABA20222 standard; protein; 308 AA.

RESULT 111 **AEA20222** (first entry)

11-AUG-2005

AEA20222;

axxxax

```
9905-0139119P

9905-0139452P

9905-0139454P

9905-0139455P

9905-0139456P

9905-0139457P

9905-0139461P

9905-0139461P

9905-0139462P

9905-0139461P

9905-0139461P

9905-0139461P

9905-0139463P

9905-0139780P

9905-0140655P

9905-0140655P

9905-0141287P

9905-0141287P

9905-0141287P

9905-0141287P

9905-0141287P

9905-0141287P

9905-0141287P
                                                                                                                                                                                                                                                                                               990S-0144085P.
990S-0144086P.
990S-0144331P.
990S-0144331P.
990S-0144332P.
                                                                                                                                                                                                                                                              99US-0142977P.
99US-0143542P.
99US-0143624P.
99US-0144005P.
                                                                                                                                                                                                                                                                                                                                                 99US-0144334P.
99US-0144335P.
99US-0144352P.
99US-0144632P.
                                                                                                                                                                                                                                                                                                                                                                                   99US-0144884P.
99US-0144814P.
99US-0145086P.
                                                                                                                                                                                                                                                                                                                                                                                                            99US-0145088P.
99US-0145085P.
99US-0145087P.
99US-0145089P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                99US-0145276P.
99US-0145913P.
99US-0145918P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         99US-0145919P.
99US-0145951P.
99US-0146386P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  99US-0146388P.
99US-0146389P.
99US-0147038P.
99US-0147204P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            990S-0147303P.
990S-0147416P.
990S-0147493P.
99US-0147935P.
99US-0148171P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    99US-0147302P.
99US-0147192P.
99US-0147260P.
                                                                                                                                                                                                                                                                                                                                                                                                                                               99US-0145192P
                                                                                                                                                                                                                                                                                                                                                                                                                                                      99US-0145145P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        99US-0145224P
                                                                                                                                                                                                                                            08.701.1999;
09.701.1999;
12.701.1999;
14.701.1999;
15.701.1999;
16.701.1999;
16.701.1999;
19.701.1999;
19.701.1999;
19.701.1999;
  14 - 70N - 1999;
16 - 70N - 1999;
17 - 70N - 1999;
18 - 70N - 1999;
23 - 70N - 1999;
23 - 70N - 1999;
24 - 70N - 1999;
25 - 70N - 1999;
25 - 70N - 1999;
26 - 70N - 1999;
27 - 70N - 1999;
28 - 70N - 1999;
28 - 70N - 1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 02-AUG-1999;
02-AUG-1999;
03-AUG-1999;
04-AUG-1999;
05-AUG-1999;
05-AUG-1999;
06-AUG-1999;
                                                                                                                                                                                                   30-JUN-1999;
01-JUL-1999;
01-JUL-1999;
02-JUL-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             09-AUG-1999;
09-AUG-1999;
10-AUG-1999;
    ö
                                                                                                                                                                Protein identification; signal transduction pathway; metabolic pathway; hybridisation assay; genetic mapping; gene expression control; promoter; termination sequence.
                    Gaps
                    ö
Query Match 55.6%; Score 5; DB 9; Length 308; Best Local Similarity 100.0%; Pred. No. 5.48+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                               Arabidopsis thaliana protein fragment SEQ ID NO: 23043.
                                                                                              AAG20739 standard; protein; 311 AA.
                                                                                                                                                                                                                                                                     990S-0121825P.
990S-0123180P.
990S-0125784P.
990S-0126264P.
990S-0126762P.
990S-012874P.
990S-012874P.
990S-0130449P.
990S-0130449P.
990S-0132487P.
990S-0132486P.
990S-0132486P.
990S-0132486P.
990S-0132486P.
990S-0132486P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            99US-0137502P.
99US-0137724P.
99US-0138094P.
99US-0138540P.
99US-0138847P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               99US-0134370P.
99US-013476BP.
99US-0134941P.
99US-0135124P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  99US-0135353P.
99US-0135629P.
99US-0136021P.
                                                                                                                                                                                                                                                     25-FEB-2000; 2000EP-00301439
                                                                                                                              17-OCT-2000 (first entry)
                                                                                                                                                                                                  Arabidopsis thaliana.
                                              |||||
118 VDDTF 122
                                    2 VDDTF 6
                                                                                                                                                                                                                   EP1033405-A2
                                                                                                                                                                                                                                                                     25-FBB-1999;
05-MAR-1999;
23-MAR-1999;
25-MAR-1999;
25-MAR-1999;
01-APR-1999;
06-APR-1999;
06-APR-1999;
19-APR-1999;
19-APR-1999;
23-APR-1999;
23-APR-1999;
30-APR-1999;
30-APR-1999;
06-AMR-1999;
06-MAR-1999;
06-MAR-1999;
06-MAR-1999;
06-MAR-1999;
06-MAR-1999;
06-MAR-1999;
06-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               14-MAY-1999;
18-MAY-1999;
19-MAY-1999;
20-MAY-1999;
21-MAY-1999;
25-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          27-MAY-1999;
28-MAY-1999;
01-JUN-1999;
03-JUN-1999;
04-JUN-1999;
06-JUN-1999;
10-JUN-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                     06-MAY-1999;
06-MAY-1999;
07-MAY-1999;
11-MAY-1999;
                                                                                                                                                                                                                                     06-SEP-2000
                                                                                                               AAG20739;
                                                                             RESULT 112
                                    ઠ
                                                    셤
```

ADT55972 standard; protein; 311 AA.

RESULT 113 ADT55972 (first entry)

13-JAN-2005

ADT55972;

```
9905-0148565P

9905-0148684P

9905-0149426P

9905-0149426P

9905-0149722P

9905-0149722P

9905-0149930P

9905-015066P

9905-015066P

9905-0151066P

9905-0151066P

9905-0151030P

9905-015130P

9905-0154018P

9905-015930P

9905-0159330P

9905-0159330P

9905-0159330P

9905-0159330P

9905-0159330P

9905-0159330P

9905-0159330P

9905-0159330P
                                                                                                                                                                                                                                                                                                                                                       99US-0160768P.
99US-0160770P.
99US-0160814P.
                                                                                                                                                                                                                                                                                                                                                                            99US-0160815P.
99US-0160980P.
99US-0160981P.
                                                                                                                                                                                                                                                                                                                                                                                                         99US-0161404P.
99US-0161405P.
99US-0161406P.
                                                                                                                                                                                                                                                                                                                                                                                                                              99US-0161359P.
99US-0161360P.
99US-0161361P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                           99US-0161992P.
99US-0161993P.
99US-0162142P.
                                                                                                                                                                                                                                                                                                                                                                                                  99US-0160989P
                                                                                                                                                                                                                                                                                                                                                                                  22-0CT-1999;
22-0CT-1999;
22-0CT-1999;
25-0CT-1999;
25-0CT-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           28-OCT-1999;
28-OCT-1999;
29-OCT-1999;
                             16-AUG-1999
                                                                                                                                -AUG-1999
                                                                                                                                                       10-SEP-1999
                                                                                                                                                             13-SEP-1999
                                                                                                                                                                           16-SEP-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                    28-OCT-1999
                                                                                                                                                                                                                                                                                                                                 21-0CT-19
21-0CT-19
21-0CT-19
21-0CT-19
21-0CT-19
```

```
ö
                                      Gaps
                                      ö
 55.6%; Score 5; DB 3; Length 311; 100.0%; Pred. No. 5.4e+02; ive 0; Mismatches 0; Indels
                                   5; Conservative
Query Match
Best Local Similarity
Matches 5; Conserv
```

||||| 160 KVDDT 164 1 KVDDT 5

8 셤

New recombinant DNA constructs useful in the field of biochemistry and genetics, and in particular for producing transgenic plants with improved biological characteristics. disease resistance; galactomannan production; plant growth regulator; heat tolerance; herbicide tolerance; lignin production; extreme osmotic condition tolerance; pathogens resistance; pest resistance; yield improvement; seed oil yield; seed protein yield. Plant; transgenic; cold tolerance; growth rate; drought tolerance; Plant polypeptide, SEQ ID 6049. 18-DEC-2003; 2003US-00739930. 28-APR-2003; 2003US-00424599. 28-APR-2003; 2003US-00425115. WPI; 2004-757369/74. (KOVA/) KOVALIC D K. JS2004216190-A1. Viridiplantae. 28-OCT-2004. Kovalic DK;

Claim 2; SEQ ID NO 6049; 14pp; English.

The invention relates a recombinant DNA construct comprising a polymucleotide having any of 5544 nucleotide sequences (CDNAs SEQ ID NO: 51544) and encoding a polymeptide with any of 5544 and no acid sequences (GEQ ID NO: 5545-11088). The CDNAs and proteins are from corn, soybean, are fished by the companient of the sequences is derived from which organism. Also included is a method of sequences is derived from which organism. Also included is a method of producing a plant having an improved property, comprising transforming a flant twith a recombinant DNA construct comprising a promoter region of functional in a plant cell operably joined to a polymucleotide encoding a plant with a recombinant DNA construct comprising a promoter region of property is selected from improving plant cold tolerance, for manipulating growth rate in plant cells by modification of the cell cycle pathway, for improving plant disease, for galactomannan production, for production of plant tolerance to plant disease, for ingroving plant tolerance to bathogous recombination in plants, for ingroving plant tolerance to extreme osmotic conditions, for improving plant tolerance to extreme osmotic conditions, for improving plant tolerance to extreme osmotic conditions, for improving plant tolerance to extreme osmotic conditions, for improvement by modification of carbohydrate, nitrogen or phosphorus use and/or uptake of photosynthesis, for modifying seed protein yield and/or content, for yield improvement by modification of carbohydrate, nitrogen or phosphorus use and/or uptake and for yield improvement by providing improved plant growth and for yield improvement by providing improved plant growth and for genetics, in particular for producing transgenic plants with improved biological characteristics such as increased yield, improving plant tolerance to extreme osmotic and drought conditions, and improving plant colerance to plant pesses or pathogens. The methods and improving colerance to plant pesses or pathogens, and improving plant coleranc

```
WO2004038003-A2.
                                                                                                                                                    4 DTFYY
                                                                                                                                                                              24 DTFYY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             30-OCT-2002;
30-OCT-2002;
15-NOV-2002;
15-NOV-2002;
15-NOV-2002;
15-NOV-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         27-NOV-2002;
27-NOV-2002;
27-NOV-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   04-DEC-2002;
04-DEC-2002;
04-DEC-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          17-JAN-2003;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   25-OCT-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               27-NOV-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         04-DEC-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         05-DEC-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               12-DEC-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         06-MAY-2004.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           25-OCT-2002;
25-OCT-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 27-NOV-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           04-DEC-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    05-DEC-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   05-DEC-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              03-JAN-2003;
17-JAN-2003;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          12-DEC-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       13-DEC-2002
                                                                                                                                                                                                                                                                          ADN99771;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     25-0CT-
                                                                                                                                                                                                                     RESULT 115
                                                                                                                          Matches
                                                                                                                                                                                                                                   ADN9977
      22222
                                                                                                                                                                                                                                                 ઠ
                                                                                                                                                                             셤
                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 monocytogenes and related organisms, and for studying genetic monocytogenes and related organisms, and for studying genetic encoded by the genome sequence of the present sequence is a protein encoded by the genome sequence of the present invention. Proteins expressed from the genome sequence are useful for raising specific antibodies, identification of L. monocytogenes and related organisms, and for biosynthesis and biodegradation, especially biosynthesis of Vitamin B12. The genome sequence and proteins encoded by it are also useful for and modulate L. monocytogenes-related diseases. In addition, the genome sequence and proteins encoded by it are useful in pharmaceutical and vaccines compositions for the treatment or prevention of infections by L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Dussurget C, Frangeul L, Couve E, Rusniok C, Faihi H, Dehoux P; Dussurget O, Chetouani F, Nedjari H, Glaser P, Kunst F, Cossart P; Daniels J, Goebel W, Kreft J, Kuhn M, Ng E, Vazquez-Boland JA; Dominguez-Bernal G, Garrido-Garcia P, Tierrez-Martinez A, Amend A; Chakraborty T, Domann E, Hain T, Berche P, Charbit A, Durant L; Perez-Diaz J, Baquero F, Garcia Del Portillo F, Gomez-Lopez N; Maduenio E, De Pablos B, Wehland J, Kaerst U, Entian K, Hauf J; Rose M, Voss H;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Genomic sequence for Listeria monocytogenes, useful e.g. for treatment and prevention of Listeria and related bacterial infections, and related
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The present invention relates to the genome sequence of Listeria monocytogenes EGD-e (see ABA03041). The genome sequence and fragments of it are useful for selecting probes and primers for detecting genes in L.
analysis systems. The present sequence is one of the 5544 plant protein sequences of the invention. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from USPTO at seqdata.uspto.gov/sequence.html?DocID=20040216190.
                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                Antibacterial; gene therapy; vaccine; biosynthesis; biodegradation; vitamin B12; bacterial infection; disease.
                                                                                                                                        ö
                                                                                                          55.6%; Score 5; DB 8; Length 311; 100.0%; Pred. No. 5.4e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim 6; SEQ ID NO 1875; 192pp; French
                                                                                                                                                                                                                                                                                                                                       Listeria monocytogenes protein #1874.
                                                                                                                                                                                                                                                         ABB49170 standard; protein; 313 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     11-APR-2001; 2001WO-FR001118.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 11-APR-2000; 2000FR-00004629
                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                     5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                        Listeria monocytogenes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (INSP ) INST PASTEUR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 2002-010914/01.
                                                                                                                       Best Local Similarity
                                                                                                                                                                                        160 KVDDT 164
                                                                                                                                                               1 KVDDT 5
                                                                                 Sequence 311 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                 WO200177335-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               polypeptides.
                                                                                                                                                                                                                                                                                                             05-FEB-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                            18-OCT-2001.
                                                                                                                                                                                                                                                                                    ABB49170;
                                                                                                          Query Match
                                                                                                                                                                                                                              RESULT 114
ABB49170
                                                                                                                                     Matches
                                                                                                                                                                                                                                                           88888888
                                                                                                                                                                                       셤
                                                                                                                                                                 ò
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         anti-inflammatory; dermatological; neuroprotective; immunomodulator; antibacterial; virucide; antipsoriatic; gorbestalic; gene therapy; vaccine; inflammatory; CNS; immune disorder; cancer; psoriasis; diabetes; early aging; hormonal imbalance; ischemic heart disease;
monocytogenes and related organisms. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at the wipo.int/pub/published_pct_sequences
                                                                                                                                                                                                 Gaps
                                                                                                                                                                                              ö
                                                                                                                                                    Length 313;
                                                                                                                                                                                            0; Indels
                                                                                                                                                      5; Le
.5e+02;
                                                                                                                                                  55.6%; Score 5; DB 5
100.0%; Pred. No. 5.5
:ive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                         ADN99771 standard; protein; 313 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Novel human protein sequence #587.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2002US-0422177P.
2002US-0422178P.
2002US-0426355P.
2002US-0426384P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2002US-0430937P.
2002US-0430965P.
2002US-0431458P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2002US-0421080P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2002US-0421552P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2002US-0426394P.
2002US-0426430P.
2002US-0426916P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2002US-0429224P.
2002US-0429275P.
2002US-0429302P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2002US-0429651P.
2002US-0430645P.
2002US-0430651P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2002US-0430657P.
2002US-0430663P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   24-OCT-2003; 2003WO-US033947
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2002US-0429326P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2002US-0430668P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2002US-0430684P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2002US-0433251P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2003US-0437914P.
2003US-0440820P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2003US-0440821P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         29-JUL-2004 (first entry)
                                                                                                                                                                                              5; Conservative
                                                                                                                                                    Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           early aging; hormon ulcerative colitis
                                                                                                                                                                                                                                                                                 28
                                                                                                                                                                                                                                      Φ
                                                                                                            Sequence 313 AA;
```

```
Protein identification; signal transduction pathway; metabolic pathway; hybridisation assay; genetic mapping; gene expression control; promoter;
                       Arabidopsis thaliana protein fragment SEQ ID NO: 14506.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   99US-0130891P.
99US-0131449P.
99US-0132048P.
99US-0132407P.
99US-0132484P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9905-0134768P
9905-013434PP
9905-0135134P-
9905-013522P-
9905-013622P-
9905-0136322P-
9905-0137222P-
9905-0137222P-
9905-0137222P-
9905-0137222P-
9905-0137222P-
                                                                                                                                                                                                                                                                                                                   99US-0126264P.
99US-012642P.
99US-0127462P.
99US-0128714P.
99US-0129845P.
99US-0130077P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    99US-0138540P.
99US-013819P.
99US-013919P.
99US-0139452P.
99US-0139453P.
                                                                                                                                                                                                                                                    99US-0121825P.
99US-0123180P.
99US-0123548P.
99US-0125788P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    99US-0132487P.
99US-0132863P.
99US-0134256P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     99US-0139454P.
99US-0139455P.
99US-0139456P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     99US-0139457P.
99US-0139458P.
99US-0139459P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    99US-0139462P.
99US-0139463P.
99US-0139750P.
99US-0139763P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      99US-0134221P.
                                                                                                                                                                                                                       25-FEB-2000; 2000EP-00301439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        99US-0132486P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     99US-0134218P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      99US-0134219P
                                                                                                                     Arabidopsis thaliana
                                                                                        termination sequence
                                                                                                                                                    EP1033405-A2
                                                                                                                                                                                                                                                                                                                                                                                                    16-APR-1999;
19-APR-1999;
21-APR-1999;
23-APR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   23-APR-1999;
28-APR-1999;
30-APR-1999;
30-APR-1999;
04-MAY-1999;
05-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    06-MAY-1999;
07-MAY-1999;
11-MAY-1999;
14-MAY-1999;
14-MAY-1999;
14-MAY-1999;
18-MAY-1999;
19-MAY-1999;
20-MAY-1999;
21-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   16-JUN-1999;
16-JUN-1999;
                                                                                                                                                                                      36-SEP-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    28-MAY-1999;
01-JUN-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      18-JUN-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      03-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     10-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       17-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        18-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         18-JUN-1999
        ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The invention relates to a nucleic acid molecule comprising a polynucleotide sequence or its complement that encodes a polypeptide. The nucleic acid is useful in preparing a composition for treating or preventing inflammatory, CNS, immune, bacterial or viral disorder, cancer, psoriasis, diabetes, early adjing, hormonal imbalance, ischemic heart disease or ulcerative colitis. This sequence corresponds to a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Williams LT, Chu K, Lee E, Hestir K, Beaurang PA, Behrens D;
Halenbeck RF, Kothakota S, Lin H, Linnemann T, Pierce K, Wang Y;
Wong JGP, Wu G, Zhang H, Zeng C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               New nucleic acid molecules, useful in preparing a composition for treating or preventing e.g. inflammatory, CNS, bacterial or viral disorders, cancer, psoriasis, diabetes, ischemic heart disease or ulcerative colitis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 313;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 55.6%; Score 5; DB 8; Le 100.0%; Pred. No. 5.5e+02; ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 14; SEQ ID NO 1371; 532pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (FIVE-) FIVE PRIME THERAPEUTICS INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAG14586 standard; protein; 316 AA.
                                                             2003US-0467199P.
2003US-0467203P.
2003US-0467203P.
2003US-0471306P.
2003US-0471306P.
2003US-0472420P.
                                                                                                                                                                            2003US-0472430P

2003US-0476621P

2003US-0476621P

2003US-0476641P

2003US-0485217P

2003US-0485217P

2003US-0485218P

2003US-048523P

2003US-048523P

2003US-048535P

2003US-048535P

2003US-048535P

2003US-0486446P
                                                                                                                                                                                                                                                                                                                                                                                                                               2003US-0493341P.
2003US-0493370P.
2003US-0493573P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                17-OCT-2000 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 55.6
Best Local Similarity 100.
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   protein of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 2004-365511/34.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        118 VDDTF 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                N-PSDB; ADN98987.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 313 AA;
                                                                                                           02-MAY 2003; 2
19-MAY 2003; 2
19-MAY 2003; 2
22-MAY 2003; 2
09-JUN 2003; 2
09-JUN 2003; 2
               18-APR-2003;
18-APR-2003;
18-APR-2003;
02-MAY-2003;
02-MAY-2003;
02-MAY-2003;
                                                                                                                                                                                                                                                                                           08-JUL-2003; 2
08-JUL-2003; 2
08-JUL-2003; 3
                                                                                                                                                                                                                                             09-JUN-2003; 208-JUL-2003; 208
                                                                                                                                                                                                                                                                                                                                                              14-JUL-2003; 2
14-JUL-2003; 2
15-JUL-2003; 2
                                                                                                                                                                                                                                                                                                                                               08-JUL-2003;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAG14586;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAG14586
ID AAG1
XX XX
AC AAG1
XX I7-0
```

요 ò

```
PR 22-JUN-1999; 99US-0139817P.
PR 23-JUN-1999; 99US-0139817P.
PR 23-JUN-1999; 99US-0140354P.
PR 24-JUN-1999; 99US-0140354P.
PR 24-JUN-1999; 99US-0140354P.
PR 24-JUN-1999; 99US-014032P.
PR 01-JUL-1999; 99US-0141284P.
PR 01-JUL-1999; 99US-0141284P.
PR 113-JUL-1999; 99US-014230P.
PR 113-JUL-1999; 99US-014230P.
PR 113-JUL-1999; 99US-014332P.
PR 113-JUL-1999; 99US-0144332P.
PR 22-JUL-1999; 99US-014532P.
PR 22-JUL-1999; 99US-014533P.
PR 22-JUL-1999; 99US-014333P.
PR 23-JUL-1999; 99US-014333P.
PR 23-JUC-1999; 99US-014333P.
PR 23-JUC-19
```

```
Protein identification; signal transduction pathway; metabolic pathway; hybridisation assay; genetic mapping; gene expression control; promoter; termination sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            55.6%; Score 5; DB 3; Length 316;
100.0%; Pred. No. 5.5e+02;
ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Arabidopsis thaliana protein fragment SEQ ID NO: 64785.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAG51073 standard; protein; 316 AA
          990S-0151303P
990S-0151438P
990S-0152363P
990S-0153070P
990S-0153070P
990S-0154039P
990S-0154039P
990S-0155139P
990S-0155639P
990S-0155659P
990S-015658P
                                                                                                                                                             9905-0157753P

9905-015865P

9905-0158369P

9905-0158269P

9905-0159294P

9905-0159294P

9905-0159231P

9905-0159331P

9905-0159331P

9905-0159331P

9905-0159634P

9905-016944P

9905-0160764P

9905-0160768P

9905-0160768P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               99US-0161993P
99US-0162142P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 18-OCT-2000 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |||||
164 KVDDT 168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 KVDDT 5
27-AUG-1999;

30-AUG-1999;

31-AUG-1999;

01-SEP-1999;

11-SEP-1999;

12-SEP-1999;

22-SEP-1999;

22-SEP-1999;

23-SEP-1999;

24-SEP-1999;

24-SEP-1999;

25-SEP-1999;

26-OCT-1999;

13-OCT-1999;

14-OCT-1999;

14-OCT-1999;

14-OCT-1999;

14-OCT-1999;

14-OCT-1999;

14-OCT-1999;

15-OCT-1999;

16-OCT-1999;

17-OCT-1999;

17-OCT-1999;

18-OCT-1999;

25-OCT-1999;

26-OCT-1999;

26-OCT-1999;

26-OCT-1999;

26-OCT-1999;

28-OCT-1999;

28-OCT-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAG51073;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best Loc
Matches
   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
```

```
990S-0141842P

990S-0142394P

990S-0142390P

990S-0142920P

990S-0142920P

990S-0142924P

990S-0142924P

990S-014334P

990S-0144332P

990S-0144332P

990S-0144332P

990S-0144332P

990S-0144332P

990S-0144334P

990S-0145919P

990S-0145919P

990S-0145918P

990S-014932P

990S-0151080P

990S-0151031P

990S-0151031P

990S-0151031P

990S-0151031P

990S-0151031P
        30-JUN-1999;
01-JUL-1999;
02-JUL-1999;
06-JUL-1999;
06-JUL-1999;
06-JUL-1999;
06-JUL-1999;
13-JUL-1999;
13-JUL-1999;
14-JUL-1999;
16-JUL-1999;
19-JUL-1999;
19-JUL-1999;
19-JUL-1999;
22-JUL-1999;
23-JUL-1999;
23-JUL-1999;
23-JUL-1999;
23-JUL-1999;
24-JUL-1999;
27-JUL-1999;
28-JUL-1999;
28-JU
          990S-0121825P.
990S-0123148P.
990S-0125788P.
990S-0125788P.
990S-0126748P.
990S-0127462P.
990S-0127462P.
990S-0127462P.
990S-0137448P.
990S-0130510P.
990S-0132448P.
990S-0132484P.
990S-0132484P.
990S-0132484P.
990S-0132484P.
990S-0132484P.
990S-0132484P.
990S-0132484P.
990S-0132484P.
990S-0132484P.
990S-013248P.
990S-013248P.
990S-013248P.
990S-013248P.
990S-013248P.
990S-013425P.
990S-013425P.
990S-013424P.
990S-0139454P.
990S-0139454P.
990S-0139454P.
990S-0139454P.
990S-0139458P.
990S-0139458P.
990S-0139458P.
990S-0139458P.
990S-0139458P.
990S-0139458P.
990S-0139458P.
990S-0139458P.
990S-0139458P.
                                                                      25-FEB-2000; 2000EP-00301439
Arabidopsis thaliana
                                                                                          25-FEB-1999;
05-MAR-1999;
23-MAR-1999;
25-MAR-1999;
25-MAR-1999;
01-APR-1999;
06-APR-1999;
16-APR-1999;
16-APR-1999;
23-APR-1999;
23-APR-1999;
23-APR-1999;
23-APR-1999;
06-MAY-1999;
06-MAY-1999;
06-MAY-1999;
06-MAY-1999;
06-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01 - 70N - 1999;
03 - 70N - 1999;
06 - 70N - 1999;
10 - 70N - 1999;
11 - 70N - 1999;
12 - 70N - 1999;
13 - 70N - 1999;
14 - 70N - 1999;
18 - 70N - 1999;
23 - 70N - 1999;
                            EP1033405-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           24-JUN-1999;
28-JUN-1999;
29-JUN-1999;
                                                06-SEF-2000
```

```
2000US-0190076P.
2000US-0198123P.
2000US-0205515P.
2000US-0209467P.
                                                                                                                                                                                                          2000US-0217487P.
2000US-0217496P.
2000US-0218290P.
2000US-0220963P.
2000US-0220964P.
2000US-0224518P.
2000US-0224518P.
                                                                                                                                                                                                                                                                                          2000US-0225214P.
2000US-0225266P.
2000US-0225267P.
2000US-0225268P.
2000US-0225268P.
                                                                                                                                                                                                                                                                                                                                                       2000US-0225757P.
2000US-0225758P.
2000US-0225759P.
                                                                                                                                                                                                                                                                                                                                                                                                                  2000US-0227182P.
2000US-0227009P.
2000US-0228924P.
2000US-0229287P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2000US-0231242P.
2000US-0231243P.
2000US-0231244P.
2000US-0231413P.
                                                                                                       2000US-0186350P.
2000US-0189874P.
                                                                                                                                                                    2000US-0214886P.
2000US-0215135P.
                                                                                                                                                                                       2000US-0216647P.
2000US-0216880P.
                                                                                                                                                                                                                                                                                                                                                                                      2000US-0226279P.
2000US-0226681P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2000US-0230437P.
2000US-0230438P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2000US-0231414P.
2000US-0232080P.
2000US-0232081P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              25-SEP-2000; 2000US-0234998P
26-SEP-2000; 2000US-0235484P
27-SEP-2000; 2000US-0235834P
                                                                                                                                                                                                                                                                                                                                                                                                          2000US-0226868P
                                                                                                                                                                                                                                                                                                                                                                                                                                                            2000US-0229343P.
2000US-0229344P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2000US-0229345P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2000US-0229513P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2000US-0231968P.
2000US-0232397P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2000US-0232401P
                                                    17-JAN-2001; 2001WO-US001307
                                                                                                                                                                                                                                                                                                                                             2000US-0225447P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2000US-0229509P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2000US-0232398P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2000US-0232399P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2000US-0232400P
             WO200154472-A2
                                                                                                                                                                   28-JUN-2000;
30-JUN-2000;
07-JUL-2000;
                                                                                                                                                                                                           111-JUL-2000)
111-JUL-2000)
111-JUL-2000)
26-JUL-2000)
14-ANG-2000)
                                                                                                                                                                                                                                                                                                                                                                                                                  22-AUG-2000;
23-AUG-2000;
30-AUG-2000;
01-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               14-SEP-2000;
14-SEP-2000;
14-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                     18-AUG-2000;
22-AUG-2000;
22-AUG-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       12-SEP-2000;
14-SEP-2000;
14-SEP-2000;
                               02-AUG-2001.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      05-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             06-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      08-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           08-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              08-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     14-SEP-2000;
    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            immunosuppressive; antiarthritic; antirheumatic; antiproliferative; cytostatic; cardiant; vasotropic; cerebroprotective; nootropic; neuroprotective; antibacterial; virucide; fungicide; opthalmological; gene therapy; channel/transporter protein; rheumatoid arthritis; neoplasm, cardiac arrest, cerebrovascular disorder; cerebral ischemia; angiogenesis; nervous system disorder; Alzheimer's disease; contait disorder; cerebral ischemia; epithelial cell proliferation; wound healing; epithelial cell proliferation; skin aging; sunburn; transplantation; chemotaxis; food additive.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Protein encoded by novel human channel/transporter gene #165.
                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 55.6%; Score 5; DB 3; Length 316; Best Local Similarity 100.0%; Pred. No. 5.5e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ADM19847 standard; protein; 316 AA
99US-0154018P
99US-0154019P
99US-0155139P
99US-0155659P
99US-0155659P
99US-015659E
99US-015659E
99US-015763P
99US-015763P
99US-015763P
99US-015923P
99US-015923P
99US-015923P
99US-015923P
99US-015923P
99US-015923P
99US-015923P
99US-015963P
99US-016963P
99US-016963P
99US-016091P
99US-016091P
99US-016091P
99US-016091P
99US-016091P
99US-016091P
99US-016091P
                                                                                                                                                                                                                                                                                                                                           990S-0161405P.
990S-0161359P.
990S-0161359P.
990S-0161360P.
990S-0161920P.
990S-0161922P.
990S-0161932P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        20-MAY-2004 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       164 KVDDT 168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 KVDDT 5
          16-8EP-1999
22-8EP-1999
23-8EP-1999
24-8EP-1999
24-8EP-1999
29-8EP-1999
06-0CT-1999
06-0CT-1999
13-0CT-1999
13-0CT-1999
13-0CT-1999
14-0CT-1999
14-0CT-1999
14-0CT-1999
14-0CT-1999
14-0CT-1999
14-0CT-1999
14-0CT-1999
14-0CT-1999
12-0CT-1999
12-0CT-1999
13-0CT-1999
14-0CT-1999
12-0CT-1999
13-0CT-1999
13-0CT-1999
13-0CT-1999
14-0CT-1999
16-0CT-1999
17-0CT-1999
18-0CT-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADM19847;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADM19847
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             유
  ઠ
```

```
2000US-023935P
2000US-0239937P
2000US-0240960P
2000US-0241785P
2000US-0241786P
2000US-0241787P
2000US-0241868P
2000US-0241808P
2000US-0241816P
2000US-0241826P
                                                                                                                    2000US-0246474P
2000US-0246477P
2000US-0246477P
2000US-0246477P
2000US-0246523P
2000US-0246524P
2000US-0246528P
2000US-0246528P
2000US-0246528P
2000US-0246528P
2000US-0246528P
2000US-0246528P
2000US-0246528P
2000US-0246528P
                                                                                                                                                                                                                           2000US-0249210P.
2000US-0249211P.
2000US-0249212P.
                                                                                                                                                                                                                                          2000US-0249213P.
2000US-0249214P.
2000US-0249215P.
2000US-0249216P.
2000US-0249218P.
2000US-0249218P.
                                                                                                                                                                                                                     2000US-0249209P
                                                                                                                                                                                                                                                           17-NOV-2000;
17-NOV-2000;
17-NOV-2000;
17-NOV-2000;
                                                                                                                               08-NOV-2000;
                                                                                                                                                                                                                                                                                                .7-NOV-2000;
                                                                                                                                                                                                                                                                                                      .7-NOV-2000;
```

HUMAN GENOME SCI INC

```
The invention relates to an isolated nucleic acid molecule encoding a channel/transporter protein or sequences at least 95% identical to a these. The nucleic acids and proteins encoded by them are used to prevent, treat or ameliorate a medical condition in e.g. humans, mice, rabbits, goats, horses, cats, dogs, chickens or sheep. They are also used to prevent, treat or ameliorate a medical condition in e.g. humans, mice, complete a pathological condition or susceptibility to a length a pathological condition. The antibodies to the proteins can also be used in alleviating symptoms associated with the disorders and in diagnostic configurating symptoms associated with the disorders and in diagnostic (ELISA). Disorders which are diagnosed or treated include autoimmune diseases e.g. retainchassays or enzyme linked immunosorbent assays (ELISA). Disorders which are diagnosed or treated include autoimmune diseases e.g. retainchassays or enzyme linked and ordinament of diseases e.g. created include autoimmune conceptuals and sorders e.g. corneal infections caused by carest, viruses and fungi and ocular disorders e.g. corneal infection. The polypeptides can also be used to aid wound healing and epithelial coll proliferation, to prevent skin aging due to sumburn, to maintain corgans before transplantation, for supporting cell culture of primary tissues, to regenerate tissues and in chemotaxis. The polypeptides can also be used as a food additive or preservative to increase or decrease conversional invention of the incention of the incentio
                                                                                                                    Isolated nucleic acid molecule encoding a channel/transporter protein is used in preventing, treating or ameliorating a medical condition.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Drosophila; developmental biology; cell signalling; insecticide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             55.6%; Score 5; DB 4; Length 316; 100.0%; Pred. No. 5.5e+02; Live 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Drosophila melanogaster polypeptide SEQ ID NO 31101.
                                                                                                                                                                                        Claim 11; SEQ ID NO 654; 809pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ABB68103 standard; protein; 317 AA.
    Ruben SM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Li PWD,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         23-MAR-2001; 2001WO-US009231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      23-MAR-2000; 2000US-0191637P.
11-JUL-2000; 2000US-00614150.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          26-MAR-2002 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Drosophila melanogaster.
Rosen CA, Barash SC,
                                            WPI; 2001-476159/51.
N-PSDB; ADM19368.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Venter JC, Adams M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 2001-656860/75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (PEKE ) PE CORP NY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Best Local Similarity
Matches 5: Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121 VDDTF 125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 316 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WO200171042-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 pharmaceutical
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          27-SEP-2001.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ABB68103;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠે
```

```
ADY25260;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (KOVA/)
(SCRE/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (ring/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (CAOY/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (TABA/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Liu J,
                                                                                                                                                                                      RESULT 121
                                                                                                         Matches
                                                                                                                                                                                                   ADY25260
  88888888
                                                                                                                                                                                                                                    ð
                                                                                                                                                     ద
                                                                                                                                                                                                                                                                     ô
                                                                                       The invention relates to an isolated nucleic acid detection reagent capable of detecting 1000 or more genes from Drosophila. The invention is useful in developmental biology and in elucidating cell signalling and cell-cell interactions in higher eukaryotes for the development of insecticides, therapeutics and pharmaceutical drugs. The invention discloses genomic DNA sequences (ABL16176-ABL30511), expressed DNA sequences (ABL16176-ABL30511), expressed DNA sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  įs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The invention relates to an isolated nucleic acid detection reagent capable of detecting 1000 or more genes from Drosophila. The invention useful in developmental biology and in elucidating cell signalling and cell-cell interactions in higher eukaryotes for the development of insecticides, therapeutics and pharmaceutical drugs. The invention discloses genomic DNA sequences (ABL16176-ABL30511), expressed DNA
                     New isolated nucleic acid detection reagent for detecting 1000 or more genes from Drosophila and for elucidating cell signaling and cell-cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New isolated nucleic acid detection reagent for detecting 1000 or more genes from Drosophila and for elucidating cell signaling and cell-cell
                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Drosophila; developmental biology; cell signalling; insecticide;
                                                                                                                                                                                                                                                                     ö
                                                                   Disclosure; SEQ ID NO 31101; 21pp + Sequence Listing; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Disclosure; SEQ ID NO 7782; 21pp + Sequence Listing; English.
                                                                                                                                                                                                                                             55.6%; Score 5; DB 4; Length 317; 100.0%; Pred. No. 5.5e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                              Drosophila melanogaster polypeptide SEQ ID NO 7782.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Myers EW;
                                                                                                                                                                                                                                                                                                                                                                          ABB60330 standard; protein; 322 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PWD,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                23-MAR-2000; 2000US-0191637P
11-JUL-2000; 2000US-00614150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          23-MAR-2001; 2001WO-US009231
                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ፰
                                                                                                                                                                                                                                                                     5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Drosophila melanogaster
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Adams M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2001-656860/75
                                                                                                                                                                                                                                         Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (PEKE ) PE CORP NY
                                                                                                                                                                                                                                                                                                          ||||||
KVDDT 90
 N-PSDB; ABL12206
                                                                                                                                                                                                                                                                                          1 KVDDT 5
                                                                                                                                                                                                                       Sequence 317 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          N-PSDB; ABL04433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 pharmaceutical.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WO200171042-A2.
                                               interactions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        interactions.
                                                                                                                                                                                                                                                                                                                                                                                                                        26-MAR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   27-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Venter JC,
                                                                                                                                                                                                                                                                                                                  98
                                                                                                                                                                                                                                                                                                                                                                                                  ABB60330;
                                                                                                                                                                                                                                                                                                                                                    RESULT 120
                                                                                                                                                                                                                                                                                                                                                                 ABB60330
셤
                                                                                                                                                                                                                                                                                                                                                                                     ઠે
```

```
New recombinant DNA construct, useful for improving plant tolerance to cold, heat, drought, herbicides, extreme osmotic conditions, pathogens or pests, for conferring increased resistance to plant disease, or for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The invention describes a recombinant DNA construct comprising a polynucleotide consisting of a sequence encoding an amino acid sequence available in electronic form from the US patent office at the sequence. The sequence the DNA patent of the polynucleotide of the invention are also useful in physical arrays of molecules and as plant breeding markers. The recombinant DNA construct is useful for improving plant tolerance to cold, heat, drought, herbicides, extreme osmotic conditions, pathogens or pests, for manipulating growth rate in plant cells by modification of the cell cycle pathway, for conferring
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                plant protectant; plant growth regulant; gene therapy; plant; recombinant DNA construct; physical array; plant breeding marker; cold tolerance; heat tolerance; drought tolerance; herbicide tolerance; extreme osmotic condition; pathogen tolerance; pest tolerance; growth rate; cell cycle pathway; disease resistance; pest tolerance; yield; plant growth, plant development; seed oil; protein yield; protein content.
sequences (ABL01840-ABL16175) and the encoded proteins (ABB57737-ABB72072). The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences
                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                χ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Çao
                                                                                                                                                                                                                        4; Length 322;
                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Tabaska JE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Plant full length insert polypeptide seqid 73044.
                                                                                                                                                                                                                        DB 4; Ler
                                                                                                                                                                                                                        55.6%; Score 5; DB 4
100.0%; Pred. No. 5.6
ive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Screen SE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim 1; SEQ ID NO 73044; 15pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ADY25260 standard; protein; 323 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   28-APR-2003; 2003US-00425114.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 06-MAY-1999; 99US-00304517.
05-NOV-2001; 2001US-00985678.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Kovalic DK,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                                                                                                                                                                                                  5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        KOVALIC D K.
SCREEN S E.
TABASKA J E.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 2004-180133/17.
                                                                                                                                                                                                                        Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                      15 VDDTF 19
                                                                                                                                                                                                                                                                                                                                               ø
                                                                                                                                                          Sequence 322 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               improving yield.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US2004034888-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Zhou Y,
                                                                                                                                                                                                                                                                                                                                            2 VDDTF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LIU J.
ZHOU Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CAO Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        21-APR-2005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Unidentified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         19-FEB-2004.
```

```
99US-0135629P.
99US-0136021P.
99US-0136782P.
99US-0137528P.
99US-0137528P.
99US-0137528P.
99US-0137528P.
99US-0138640P.
99US-0138640P.
99US-0138640P.
99US-0138640P.
99US-0138640P.
99US-0138640P.
99US-0138645P.
99US-0139458P.
                                                                                                                                                                                                                                               99US - 0139463P
99US - 0139763P
99US - 0139817P
99US - 0140334P
99US - 0140635P
99US - 0140695P
99US - 0140837P
99US - 0141287P
99US - 0141287P
99US - 0142124P
99US - 0142803P
99US - 0142803P
99US - 0143644P
99US - 0143644P
99US - 0143644P
99US - 0143642P
99US - 0144085P
                                                                                                                                                                                                          99US-0139459P.
99US-0139461P.
99US-0139461P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9905-0144332P-
9905-0144334P-
9905-0144334P-
9905-0144352P-
9905-0144814P-
9905-0144814P-
9905-0145086P-
9905-0145086P-
9905-0145086P-
9905-0145088P-
9905-0145088P-
9905-0145088P-
9905-0145088P-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9905 - 0145145P

9905 - 0145214P

9905 - 0145214P

9905 - 0145216P

9905 - 0145913P

9905 - 0145913P

9905 - 0145913P
                 24 - MAY - 1999;
25 - MAY - 1999;
28 - MAY - 1999;
01 - JUN - 1999;
03 - JUN - 1999;
04 - JUN - 1999;
06 - JUN - 1999;
07 - JUN - 1999;
10 - JUN - 1999;
11 - JUN - 1999;
16 - JUN - 1999;
                                                                                                                                                                                                                 18 - UN-1999;
22 - UN-1999;
23 - UN-1999;
23 - UN-1999;
                                                                                                                                                                                                                                                                                                                24-JUN-1999;
28-JUN-1999;
29-JUN-1999;
30-JUN-1999;
                                                                                                                                                                                                                                                                                                                                                                                                             12-JUL-1999
         increased resistance to plant disease, for producing galactomannan, lighin or plant growth regulators, for increasing the rate of homologous recombination in plants, for improving yield by modification of photosynthesis or carbohydrate, nitrogen or phosphorus use and/or uptake or by providing improved plant growth and development under at least one stress condition or for modifying seed oil or protein yield and/or content. This is the amino acid sequence of a plant full length insert polygeptide that can be used in the recombinant DNA construct of the
                                                                                                                                                                                                                                                                                                    Protein identification; signal transduction pathway; metabolic pathway; hybridisation assay; genetic mapping; gene expression control; promoter; termination sequence.
                                                                                                                                         Gaps
                                                                                                                   55.6%; Score 5; DB 8; Length 323; 100.0%; Pred. No. 5.6e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                 Arabidopsis thaliana protein fragment SEQ ID NO: 23042.
                                                                                                                                                                                                                         AAG20738 standard; protein; 326 AA
                                                                                                                                                                                                                                                                                                                                                                                                                  99US-0121825P.
99US-0123180P.
99US-01253648P.
99US-0126264P.
99US-01267462P.
99US-0128714P.
99US-0128714P.
99US-0128714P.
99US-0128714P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  99US-0130510P.
99US-0131449P.
99US-0132449P.
99US-0132447P.
99US-0132484P.
99US-0132486P.
99US-0132486P.
99US-0132486P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        99US-0134218P.
99US-0134219P.
99US-0134370P.
99US-013470P.
99US-0134768P.
99US-0134768P.
                                                                                                                                                                                                                                                                                                                                                                                                25-FEB-2000; 2000EP-00301439
                                                                                                                                                                                                                                                               17-OCT-2000 (first entry)
                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                          Arabidopsis thaliana
                                                                                                                          Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                           168 KVDDT 172
                                                                                                                                                         1 KVDDT 5
                                                                                                 Sequence 323 AA;
                                                                                                                                                                                                                                                                                                                                                             BP1033405-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                              23-MAR-1999;
25-MAR-1999;
01-APR-1999;
06-APR-1999;
06-APR-1999;
16-APR-1999;
13-APR-1999;
23-APR-1999;
23-APR-1999;
30-APR-1999;
30-APR-1999;
05-MAY-1999;
06-MAY-1999;
06-MAY-1999;
06-MAY-1999;
06-MAY-1999;
06-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              18-MAY-1999;
19-MAY-1999;
20-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                              06-SEP-2000
increased
                                                                                invention.
                                                                                                                                                                                                                                            AAG20738;
                                                                                                                   Query Match
                                                                                                                                                                                                      RESULT 122
                                                                                                                                                                                                                 AAG20738
    88888888888
                                                                                                                                                         ò
                                                                                                                                                                          셤
```

```
99US-0146389P.
99US-0147038P.
99US-0147204P.
99US-0147302P.
                                                                                                       990S-0148319P-990S-0148319P-990S-0148341P-990S-0149175P-990S-0149175P-990S-0149175P-990S-014972P-990S-0149929P-990S-015084P-990S-015086P-990S-015106P-990S-015130P-990S-015130P-990S-015139P-990S-0154739P-990S-0154739P-990S-0154739P-990S-0154739P-990S-0154739P-990S-0154739P-990S-0154739P-990S-0154739P-990S-0154739P-990S-0154739P-990S-0154739P-990S-0154739P-990S-0154739P-990S-0154739P-990S-0154739P-990S-0154739P-990S-0154739P-990S-0154739P-990S-0154739P-990S-0154739P-990S-0154559P-990S-0154539P-990S-0154539P-990S-0154539P-990S-0158232P-990S-0158232P-990S-0158232P-990S-01592339P-990S-01592339P-990S-01592339P-990S-01592339P-990S-01592339P-990S-01592339P-990S-01592339P-990S-01592339P-990S-01592339P-990S-01592339P-990S-01592339P-990S-01592339P-900S-01592339P-900S-01592334P-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                99US-0159295P.
99US-0159329P.
99US-0159330P.
99US-0159331P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    99US-0159637P.
99US-0159638P.
99US-0159584P.
99US-0160741P.
99US-0160768P.
99US-0160770P.
99US-0160814P.
99US-0160815P.
                                          99US-0147192P.
99US-0147260P.
99US-0147303P.
                                                                    99US-0147416P.
99US-0147493P.
99US-0147935P.
99US-0148171P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9905-0160981P
9905-0160989P
9905-0161404P
9905-0161406P
9905-0161359P
9905-0161350P
      02-AUG-1999;
03-AUG-1999;
04-AUG-1999;
05-AUG-1999;
05-AUG-1999;
06-AUG-1999;
06-AUG-1999;
06-AUG-1999;
09-AUG-1999;
                                                                                                                                                                                                                                                                                                                                                                                                  05-0CT-1999
06-0CT-1999
08-0CT-1999
12-0CT-1999
13-0CT-1999
13-0CT-1999
14-0CT-1999
14-0CT-1999
14-0CT-1999
14-0CT-1999
14-0CT-1999
14-0CT-1999
18-0CT-1999
                                                                                                                                                                                               23-AUG-1999;
23-AUG-1999;
25-AUG-1999;
27-AUG-1999;
27-AUG-1999;
30-AUG-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        26-OCT-1999;
26-OCT-1999;
26-OCT-1999;
                                                                                                                12-AUG-1999;
13-AUG-1999;
13-AUG-1999;
                                                                                                                                           16-AUG-1999;
17-AUG-1999;
18-AUG-1999;
                                                                                                                                                                      20-AUG-1999;
20-AUG-1999;
20-AUG-1999;
                                                                                                                                                                                                                                                                                                                                                               24-SEP-1999;
28-SEP-1999;
29-SEP-1999;
                                                                     00000
                                                                                                                                                                                                                                                                        31-AUG-1999
01-SEP-1999
                                                                                                                                                                                                                                                                                                            13-SEP-1999
                                                                                                                                                                                                                                                                                                  10-SEP-1999
                                                                                                                                                                                                                                                                                                                             -SEP-1999
                                                                                                                                                                                                                                                                                                                                                        23-SEP-1999
                                                                                                                                                                                                                                                                                                                                                                                          04-OCT-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         21-OCT-1999
                                                                                                10-AUG-1
```

```
The present invention describes a crystal of protein kinase B beta (PKBbeta) comprising (1), where (1) comprises: (a) a tetragonal space group P4-12-12 and unit cell dimensions of: a = 149.33 plus or minus of strong P4-12-12 and unit cell dimensions of: a = 149.33 plus or minus of: 5 Angstrom, b = 148.40 plus or minus 0.5 Angstrom, b = 148.40 plus or minus 0.5 Angstrom, c = 38.55 plus or minus 0.5 Angstrom, a = 149.70 plus or minus 0.5 Angstrom, c = 39.19 plus or minus 0.5 Angstrom, or a = 149.70 plus or minus 0.5 Angstrom, c = 39.19 plus or minus 0.5 Angstrom, c = 39.19 plus or minus 0.5 Angstrom, c = 39.06 plus or minus 0.5 Angstrom, c = 39.19 plus or minus 0.5 Angstrom, c = 39.90 plus or minus 0.5 Angstrom, c = 39.06 plus or minus 0.5 C o.5 Angstrom, or (1) has cytostatic, antidiabetic, vasotropic, c notropic and neuroprotective activities, and can be used in gene the ergist of protein kinases activity, and for structural care useful in activating protein kinase activity, and for structural mulgais of other protein kinases. The crystal may also be used in malfacturing a medicament for treating cancers, diabetes, erectile dysfunction or neurodegeneration. The present sequence represents an AGC family protein kinase which is given in the exemplification of the
                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Protein kinase B; PKB/Akt; enzyme; crystal structure; drug discovery; protein co-ordinate data; cytostatic; andidabetc; vasotropic; PKB; nootropic; neuroprotective; gene therapy; protein kinase B beta; PKBbeta; structural analysis; cancer; diabetes; erectile dysfunction;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             New crystal of protein kinase B beta, useful for activating protein kinases, e.g. AGC kinases, comprises three-dimensional atomic coordinates
                                                                                                                                              Gaps
                                                                                                                                            ö
                                                                                                  DB 3; Length 326;
                                                                                                                                          0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (NOVS ) NOVARTIS FORSCHUNGSSTIFTUNG ZWEIGNIEDERL.
(CANC-) CANCER RES INST.
                                                                                      Cron PD
                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGC family protein kinase protein p90-SsK.
                                                                                                                                                                                                                                                                                                                         ABR57463 standard; protein; 328 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Disclosure; Fig 4; 284pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Barford D, Yang J, Hemmings BA,
99US-0161920P.
99US-0161992P.
99US-0161993P.
99US-0162142P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    14-AUG-2002; 2002WO-GB003735.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            14-AUG-2001; 2001GB-00019860.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       or a tetragonal space group.
                                                                                                                                                                                                                                                                                                                                                                                                           15-SEP-2003 (first entry)
                                                                                                                                            5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 2003-268328/26.
                                                                                                Query Match
Best Local Similarity
                                                                                                                                                                                                                        175 KVDDT 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          neurodegeneration
                                                                                                                                                                                  1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WO2003016516-A2.
28-OCT-1999;
28-OCT-1999;
28-OCT-1999;
29-OCT-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Unidentified.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              27-FEB-2003.
                                                                                                                                                                                                                                                                                                                                                                   ABR57463;
                                                                                                                                                                                                                                                                                   RESULT 123
ABR57463
                                                                                                                                          Matches
                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                ò
```

```
9905-0137724P.
9905-0138094P.
9905-0138047P.
9905-0139119P.
9905-0139452P.
9905-0139452P.
9905-0139454P.
9905-0140695P.
9905-0140695P.
9905-0140695P.
9905-0141284P.
9905-0141284P.
9905-0140695P.
9905-014431P.
9905-014531P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              990S-0147038P.
990S-0147204P.
990S-0147302P.
990S-0147192P.
990S-0147260P.
        07 - JUN - 1999;
08 - JUN - 1999;
10 - JUN - 1999;
11 - JUN - 1999;
16 - JUN - 1999;
16 - JUN - 1999;
17 - JUN - 1999;
18 - JUN - 1999;
                                                                                                                             18-JUN-1999;
18-JUN-1999;
18-JUN-1999;
18-JUN-1999;
18-JUN-1999;
21-JUN-1999;
                                                                                                                                                                                                                 24-JUN-1999;
28-JUN-1999;
29-JUN-1999;
30-JUN-1999;
01-JUL-1999;
02-JUL-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                     21. JUL 1999;
22. JUL 1999;
22. JUL 1999;
22. JUL 1999;
23. JUL 1999;
23. JUL 1999;
23. JUL 1999;
24. JUL 1999;
26. JUL 1999;
27. JUL 1999;
27. JUL 1999;
27. JUL 1999;
28. JUL 1999;
27. JUL 1999;
28. JUL 1999;
28. JUL 1999;
29. JUL 1999;
20. AUG 1999;
40. AUG 1999;
60. AUG 1999;
                                                                                                                                                                                                                                                                            06-001-1999;
08-001-1999;
09-001-1999;
13-001-1999;
14-001-1999;
16-001-1999;
16-001-1999;
         ö
                                                                                                                                                                                                         Protein identification; signal transduction pathway; metabolic pathway; hybridisation assay; genetic mapping; gene expression control; promoter;
                                                           Gaps
                                                           ö
                                        Query Match 55.6%; Score 5; DB 6; Length 328; Best Local Similarity 100.0%; Pred. No. 5.7e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                       Arabidopsis thaliana protein fragment SEQ ID NO: 64784.
                                                                                                                                    AAG51072 standard; protein; 329 AA.
                                                                                                                                                                                                                                                                                                              99US-0121825P.
99US-0123180P.
99US-012548P.
99US-01264P.
99US-01264P.
99US-012644P.
99US-0120714P.
99US-0120714P.
99US-0130077P.
99US-0130077P.
99US-013048P.
99US-0131449P.
99US-0131449P.
99US-0132484P.
99US-0132484P.
99US-0132481P.
99US-0132481P.
99US-0132481P.
99US-0132481P.
99US-0132481P.
99US-0132481P.
99US-0132481P.
99US-0132481P.
99US-013421P.
99US-013421P.
99US-013421P.
99US-013421P.
99US-0134224P.
99US-0134224P.
99US-0134224P.
99US-0134224P.
99US-0134224P.
99US-0134224P.
                                                                                                                                                                                                                                                                                             25-FEB-2000; 2000EP-00301439
                                                                                                                                                                       18-OCT-2000 (first entry)
                                                                                                                                                                                                                          termination sequence
                                                                                                                                                                                                                                           Arabidopsis thaliana
                                                                                        291 DDTFY 295
present invention
                                                                          3 DDTFY 7
                         Sequence 328 AA;
                                                                                                                                                                                                                                                                                                                                               25-MAR-1999;
29-MAR-1999;
01-APR-1999;
08-APR-1999;
16-APR-1999;
11-APR-1999;
21-APR-1999;
23-APR-1999;
23-APR-1999;
30-APR-1999;
30-APR-1999;
30-APR-1999;
06-MAY-1999;
06-MAY-1999;
06-MAY-1999;
06-MAY-1999;
11-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           19-MAY-1999;
20-MAY-1999;
21-MAY-1999;
24-MAY-1999;
25-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         14-MAY-1999;
14-MAY-1999;
14-MAY-1999;
18-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-JUN-1999;
03-JUN-1999;
04-JUN-1999;
                                                                                                                                                                                                                                                            EP1033405-A2
                                                                                                                                                                                                                                                                             06-SEP-2000
                                                                                                                                                       AAG51072;
                                                                                                                     RESULT 124
                                                                                                                             AAG51072
       SXS
                                                                           ઠ
                                                                                          셤
```

```
The invention relates to multiprotein complexes from eukaryotes. Proteins of the invention and DNA sequences encoding them are given in records ABR52568-ABR53903 and ACC60610-ACC61944 respectively. The complexes are obtainable by using a protein as a bait and isolating the set of proteins which is attached thereto from cells. Such protein complexes may comprise up to 30 distinct proteins. Protein complexes of the invention are useful for diagnosing a disease or disorder, or as a target for an active agent of a pharmaceutical, preferably a drug target in the treatment or prevention of a disease or disorder. Note: The sequence data for this patent is not represented in the printed specification, but is based on sequence information supplied by the European Patent Office. The complete document is available on CD-ROM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         New isolated protein complexes useful for diagnosing a disease or disorder, or as a target for an active agent of a pharmaceutical, preferably a drug target in the treatment or prevention of disease or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Kruse UD, Kuester BD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Disclosure; SEQ ID NO 581; 17pp + Sequence Listing; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 6; Length 329;
. 5.7e+02;
ches 0; Indels
                                                                                                                                                                                                                                         Multiprotein complex; eukaryote; drug target; diagnosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bauer A, Gavin A, Grandi P, Krause R, K
Marzioch M, Schultz JD, Superti-Furga GD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 55.6%; Score 5; DB 6
Best Local Similarity 100.0%; Pred. No. 5.7
Matches 5; Conservative 0; Mismatches
                                                                                                            ABR52858 standard; protein; 329 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADK62318 standard; protein; 329 AA.
                                                                                                                                                                                                                                                                                                                                                                    20-DEC-2001; 2001EP-00130253.
                                                                                                                                                                                                          Protein sequence #SEQ ID 581.
                                                                                                                                                                                                                                                                                                                                                                                                15-MAY-2001; 2001EP-00111774.
                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                                                        Saccharomyces cerevisiae.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 2003-250078/25.
                                                                                                                                                                                                                                                                                                                                                                                                                                 (CELL-) CELLZOME AG
                                177 KVDDT 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      153 DDTFY 157
    Ŋ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               N-PSDB; ACC60900.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 329 AA;
   1 KVDDT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3 DDTFY
                                                                                                                                                                                                                                                                                                      EP1258494-A1.
                                                                                                                                                                            20-JUN-2003
                                                                                                                                                                                                                                                                                                                                     20-NOV-2002.
                                                                                                                                               ABR52858;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          disorder.
                                                                                RESULT 125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ADK62318
ID ADK6
XX
AC ADK6
XX
                                                                                                  ABR52858
                               셤
                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity 100.0%; Pred. No. 5.7e+02; 5; Conservative 0; Mismatches 0; Indels
99US-0147493P.
99US-0147935P.
99US-0148171P.
                                                                                                         990S-0149368P

990S-0149175P

990S-0149723P

990S-0149920P

990S-0149930P

990S-0150566P

990S-015066P

990S-0151065P

990S-0151066P

990S-0151066P

990S-0151303P

990S-0151303P

990S-015401BP

990S-015401BP
                                            99US-0148319P.
99US-0148341P.
99US-0148565P.
99US-0148684P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  99US-0159295P.
99US-0159329P.
99US-0159330P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               99US-0159331P.
99US-0159637P.
99US-0159638P.
99US-0159584P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     99US-0161405P.
99US-0161406P.
99US-0161359P.
99US-0161360P.
99US-0161920P.
99US-0161932P.
99US-0161932P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               99US-0160741P.
99US-0160767P.
99US-0160768P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           99US-0160770P.
99US-0160814P.
99US-0160815P.
99US-0160980P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99US-0160981P.
99US-0160989P.
99US-0161404P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
Matches 5; Conserv
                                            11-AUG-1999;
12-AUG-1999;
13-AUG-1999;
13-AUG-1999;
                                                                                                          16-AUG-1999;
17-AUG-1999;
18-AUG-1999;
20-AUG-1999;
                                                                                                                                                                       20-AUG-1999;
20-AUG-1999;
23-AUG-1999;
23-AUG-1999;
25-AUG-1999;
26-AUG-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      05-0CT-1999

06-0CT-1999

08-0CT-1999

13-0CT-1999

13-0CT-1999

14-0CT-1999

14-0CT-1999

14-0CT-1999

14-0CT-1999

14-0CT-1999

14-0CT-1999

12-0CT-1999

21-0CT-1999

21-0CT-1999
                                                                                                                                                                                                                                                                                    27-AUG-1999;
27-AUG-1999;
30-AUG-1999;
                                                                                                                                                                                                                                                                                                                                31-AUG-1999;
01-SEP-1999;
07-SEP-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           28-SEP-1999;
29-SEP-1999;
04-OCT-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                            16-SEP-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                              20-SEP-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              23-SEP-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            24-SEP-1999
```

ö

ADK62318;

ö

Gaps

; 0

```
The invention relates to novel protein complexes comprising a first and a second protein, or its derivative, fragment, homologue or variant. The proteins are selected from given protein complexes, which are not defined in the specification. The variants are encoded by nucleic acids that the specification. The variants are encoded by nucleic acids that the specification of the nucleic acids encoding the proteins under low stringency conditions. The protein complexes are useful as targets for an active useful as drugs targets for the treatment or preventing of a disease or disorder. The complexes and methods above are useful in diagnosing or for developing a disease or disorder in a subject. These are also useful in screening for the presence of a disease or disorder or a predisposition for developing a disease or disorder in a subject. These are also useful in screening for a drug for treatment or prevention of a disease or disorder. The molecule that modulates the amount, activity or protein components of the complex is useful for the manufacture of a medicament
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      targets in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            for the treatment or prevention of a disease or disorder. This sequence corresponds to a protein of the invention. (Note: the sequence data for this patent did not form part of the printed specification but was obtained from the EPO in electronic format).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Recombinant DNA construct; transformed plant; improved plant property;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New proteins and protein complexes from eukaryotes, useful as targets drug screening, or in diagnosing or screening for the presence of a disease or disorder, or a predisposition for developing a disease or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                         Bauer A, Gavin A, Superti-Furga G, Kuester B, Schultz J;
Marzioch M, Grandi P, Krause R, Kruse U, Merino A, Bauch A;
Michon A, Leutwein C, Rick J;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  55.6%; Score 5; DB 7; Length 329; 100.0%; Pred. No. 5.7e+02; ive 0; Mismatches 0; Indels
                                            Disease treating protein complex-derived protein #285.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Disclosure; SEQ ID NO 569; 13pp; English.
                                                                                protein complex; drug target; diagnosis,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ADS43699 standard; protein; 329 AA.
                                                                                                                                                                                                                                        20-DEC-2002; 2002EP-00102902.
                                                                                                                                                                                                                                                                            20-DEC-2001; 2001EP-00130253.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bacterial polypeptide #22129.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Beet Local Similarity 100.vv
06-MAY-2004 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               02-DEC-2004 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           disorder in a subject.
                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 2003-638460/61.
                                                                                                                                                                                                                                                                                                                 (CELL-) CELLZOME AG.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 153 DDTFY 157
                                                                                                                                                                                                                                                                                                                                                                                                                                                        N-PSDB; ADK62319.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3 DDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 329 AA;
                                                                                                                     Unidentified.
                                                                                                                                                         EP1338608-A2
                                                                                                                                                                                                 27-AUG-2003
                                                                                                                                                                                                                                                                                                                                                                                             Michon A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ADS43699;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADS43699
  ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        XXX2XX
```

```
The invention relates to a recombinant DNA construct comprising a promoter functional in a plant cell, where the promoter is positioned to provide for expression of a polynucleotide encoding a polypeptide from a microbial source. The invention also relates to a transformed plant comprising the recombinant DNA construct and a method of producing a transformed plant having an improved property. The plant is a crop plant cauch as maize or soybean. The method of producing a transformed plant cauch as maize or soybean. The method of producing a transformed plant can be a plant with the cacombinant DNA construct and growing the transformed plant, where the polynucleotide or polypeptide is useful for improving plant properties. The recombinant DNA construct is useful for improving plant properties. The recombinant DNA construct is useful for improving plant properties. The recombinant DNA construct is useful for producing plants with improved plant properties, e.g. improved cold, heat or drought tolerance, tolerance to herbicides, extreme osmotic conditions, pathogens or persent increased rate of the cell cycle pathway with plant growth regulators, increased rate of content, improved yield by modified seed oil or protein yield and/or content, improved yield by modification of photosynthesis or by providing improved plant growth and development under at least one stress content, in the call of the call development under at least one stress content.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  New recombinant DNA construct comprising a promoter positioned to provide for expression of a polynucleotide encoding a polypeptide from a microbial source, useful for producing plants with improved properties.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  condition, improved lignin production or improved galactomannan production. This sequence represents a bacterial polypoptide used in the scope of the invention. Note: The sequence data for this parent did not form part of the printed specification but was obtained in electronic
                 pathogen tolerance; pest tolerance; plant disease resistance; cell cycle pathway modification; plant growth regulator; homologous recombination; seed oil yield; protein yield; carbohydrate; nitrogen; phosphorus; photosynthesis; lignin; galactomannan; bacterial polypeptide.
tolerance; heat tolerance; drought tolerance; herbicide; osmosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gapa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          55.6%; Score 5; DB 8; Length 329; 100.0%; Pred. No. 5.7e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        format from USPTO at segdata.uspto.gov/sequence.html
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Goldman BS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 1; SEQ ID NO 22129; 122pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Chen X,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ADT87145
ID ADT87145 standard; protein; 329 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Hinkle GJ, Slater SC,
                                                                                                                                                                                                                                                                            20-FEB-2003; 2003US-00369493
                                                                                                                                                                                                                                                                                                                     21-FEB-2002; 2002US-0360039P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5, Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 2004-061375/06.
                                                                                                                                                                                                                                                                                                                                                                 CAO Y.
HINKLE G J.
SLATER S C.
CHEN X.
                                                                                                                                                                                                                                                                                                                                                                                                                                                       GOLDMAN B S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DDTFY 157
                                                                                                                                                                                         US2003233675-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3 DDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 329 AA;
                                                                                                                                                                                                                                  18-DEC-2003.
                                                                                                                                                   Bacteria.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                              (CHEN/)
                                                                                                                                                                                                                                                                                                                                                                                   (HINK/)
(SLAT/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Cao Y,
                                                                                                                                                                                                                                                                                                                                                                 (CAOY/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
8
```

ij

activity resulting

transformed plants with altered metabolic

Chen R; 2004-766883/75. WPI; 2004-766883, N-PSDB; ADT87144 WO2004092398-A2. New isolated 13-JAN-2005 28-OCT-2004 Mckersie B, Δ, Related altered Puzio

```
88888888
                                                                                                                                                                                                                                                                                        ð
                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The invention relates an isolated nucleic acid molecule comprises a nucleic acid molecule encoding a Stress-Related Protein (SRP), from Yeast Corresponding and checked encoding a Stress-Related Protein (SRP), from Yeast Corresponding contransformed wild type plant cell (Marret Compared to a corresponding non-transformed wild type plant cell (Marret Compared is a scongared to a corresponding non-transformed wild captured by transformed plant generated from the plant cell above conversion is a monocot or dioct plant, or a gymmosperm plant, a seed produced by a transgenic plant above (Where the seed is genetically homozygous for a transgenic plant above (Where the seed is genetically homozygous for a transgenic plant above (Where the seed is genetically confirming in an increased tolerance to environmental stress as compared to a corresponding non-transformed wild type plant), a mucleic acid construct which confers the expression of the nucleic acid molecule above (Comparising on mon-transformed wild type plant), we except comparising on the increased tolerance to environmental stress as compared to a corresponding non-transformed wild type host cell), a vector comprising confirming in increased tolerance to environmental stress as compared to a corresponding non-transformed wild type host cell), a vector comprising on confirming in increased tolerance to environmental stress as compared to a corresponding non-transformed wild type host cell), a vector comprising confirming in increased tolerance to environmental stress to producing a transgenic plant with altered metabolic acid molecules above, or the nucleic acid construct, a host corresponding non-transformed wild type host cell), and construct, and included a transgenic plant with altered metabolic activity modifying stress telated Protein (SRP) selected from the amino acid method of producing a transgenic plant with altered metabolic activity and/or a signation of a plant transformed will the metabolic activity and/or a signation of a plant transformed will t
                                                                                                                                      Yeast; Stress-related protein; SRP; environmental stress; abiotic stress; drought; heat; cold; salt.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          lated nucleic acid molecule comprises a sequence encoding Stress-Protein (SRP), useful for producing transformed plants with metabolic activity resulting in increased tolerance or resistance
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Chardonnens A, Shirley A, Wang X, Sarria-Millan R;
                                                                                            Yeast Stress-related protein from gene YJL152W,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim 15; SEQ ID NO 123; 911pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                   15-APR-2003; 2003EP-00008080.
02-MAY-2003; 2003EP-00039728.
01-AUG-2003; 2003EP-0001672.
30-SEP-2003; 2003EP-00022225.
                                                                                                                                                                                                                                                                                                                                                     15-APR-2004; 2004WO-US011888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (BADI ) BASF PLANT SCI GMBH
                                                (first entry)
                                                                                                                                                                                                               Saccharomyces cerevisiae.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   environmental stress.
ADT87145;
```

```
the 6213 antisense sequences given in the specification where expression of the nucleic acid inhibits proliferation of a cell. Also included are:

(1) a vector comprising a promoter operably linked to the nucleic acid encoding a polypeptide whose expression is inhibited by the antisense nucleic acid; (2) a host cell containing the vector; (3) an isolated or polypeptide or its fragment whose expression is inhibited by the antisense antisense nucleic acid; (4) an antibody capable of specifically binding the polypeptide; (5) producing the polypeptide; (6) inhibiting cellular proliferation or the activity of a gene in an operon required for proliferation or that has an activity against a biological pathway capable of specification, (7) identifying a compound that influences the activity of the gene product or that has an activity against a biological pathway capable of the gene product or that inhibits cellular proliferation; (8) identifying a gene required for cellular proliferation or the biological pathway in which a proliferation-required gene or its gene product lies or a gene on which the test compound that inhibits proliferation of an
                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  screening
                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Antisense; prokaryotic essential gene; cell proliferation; drug design.
                        increased tolerance and/or resistance to an environmental stress (drought, heat, cold and salt) as compared to a corresponding non-transformed wild-type plant cell. The present sequence is a yeast SRP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Zyskind JW;
Xu HH;
                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               for homologous nucleic acids required for cellular proliferation to isolate candidate molecules for rational drug discovery programs.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            New antisense nucleic acids, useful for identifying proteins or
                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           invention relates to an isolated nucleic acid comprising
                                                                                                                                                                                                                                      Length 329
                                                                                                                                                                                                                                                                                                  0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ohlsen KL,
Forsyth RA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Protein encoded by Prokaryotic essential gene #30369.
                                                                                                                                                                                                                                      DB 8; Len
5.7e+02;
                                                                                                                                                                                                                55.6%; Scc...
100.0%; Pred. No. ...
... 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Haselbeck R,
Yamamoto R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim 25; SEQ ID NO 72766; 1766pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ABU44842 standard; protein; 330 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Malone C,
Carr GJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           21-MAR-2002; 2002WO-US009107.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    21-MAR-2001; 2001US-00815242.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                06-SEP-2001; 2001US-00948993.
25-OCT-2001; 2001US-0342923P
06-FEB-2002; 2002US-00078851
06-MAR-2002; 2002US-036258951
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                                                                                     5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (ELIT-) ELITRA PHARM INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Salmonella paratyphi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Zamudio C,
Trawick JD,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 2003-029926/02.
                                                                                                                                                                                                                                                                  Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                     153 DDTFY 157
                                                                                                                                                                                                                                                                                                                                                             3 DDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    N-PSDB; ACA48712
                                                                                                                                                                              Sequence 329 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WO200277183-A2.
                                                                                                                      the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              19-JUN-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   03-OCT-2002.
producing tincreased t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ABU44842;
                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ņ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Wang
Wall
                                                                                                                                                                                                                                                                                              Matches
```

```
23-APR-1999
23-APR-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAG14585
          엄
                                                                                                                                                                                                                                                                                                                                                                                                              ઢ
corganism acts; (9) manufacturing an antibiotic; (10) profilling a compound's activity; (11) a culture comprising strains in which the gene product is overszpressed or underexpressed; (12) determining the extent to which each of the strains is present in a culture or collection of strains; or (13) identifying the target of a compound that inhibits the proliferation of an organism. The antisense mucheic acids are useful for identifying proteins or screening for homologous nucleic acids required for cellular proliferation to isolate candidate molecules for rational crowing scrovery programs, or for screening homologous nucleic acids required for proliferation in cells other than S. aureus, S. typhimurium, C. K. pneumoniae or P. aeruginosa. The present sequence is encoded by one of the trarget prokaryotic essential genes. Note: The sequence data for this patent did not form part of the printed specification, but was obtained cor the published pot_sequences.
                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      New antisense nucleic acids, useful for identifying proteins or screening for homologous nucleic acids required for cellular proliferation to isolate candidate molecules for rational drug discovery programs.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The invention relates to an isolated nucleic acid comprising any one of the 6213 antisense sequences given in the specification where expression of the nucleic acid inhibits proliferation of a cell. Also included are:
(1) a vector comprising a promoter operably linked to the nucleic acid encoding a polypeptide whose expression is inhibited by the antisense nucleic acid; (2) a host cell containing the vector; (3) an isolated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Antisense; prokaryotic essential gene; cell proliferation; drug design.
                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Zyskind JW;
Xu HH;
                                                                                                                                                                                                                                                          .
0
                                                                                                                                                                                                                              55.6%; Score 5; DB 6; Length 330; 100.0%; Pred. No. 5.7e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Haselbeck R, Ohlsen KL,
Yamamoto R, Forsyth RA,
                                                                                                                                                                                                                                                                                                                                                                                                                                             Protein encoded by Prokaryotic essential gene #36060.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 25; SEQ ID NO 78457; 1766pp; English.
                                                                                                                                                                                                                                                                                                                                                                   ABU50533 standard; protein; 330 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2001US-00948993.
2001US-0342923P.
2002US-00072851.
2002US-0362699P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Malone C,
Carr GJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       21-MAR-2002; 2002WO-US009107.
                                                                                                                                                                                                                                                                                                                                                                                                                    19-JUN-2003 (first entry)
                                                                                                                                                                                                                                          Local Similarity 100.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (ELIT-) ELITRA PHARM INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Zamudio C,
Trawick JD,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 2003-029926/02.
                                                                                                                                                                                                                                                                                               178 DTFYY 182
                                                                                                                                                                                                                                                                               4 DIFYY 8
                                                                                                                                                                                                       Sequence 330 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                N-PSDB; ACA54403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Yersinia pestis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WO200277183-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              21-MAR-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      25-OCT-2001;
08-FEB-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           06-SEP-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              06-MAR-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               03-OCT-2002
                                                                                                                                                                                                                                                                                                                                                                                             ABU50533;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Wang L,
Wall D,
                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                       Matches
      ઠે
                                                                                                                                                                                                                                                                                                     셤
```

```
polypeptide or its fragment whose expression is inhibited by the antisense nucleic acid; (4) an antibody capable of specifically binding che polypeptide; (5) producing the polypeptide; (6) inhibiting cellular proliferation or the activity of a gene in an operon required for proliferation, (7) identifying a compound that influences the activity of the gene product or that has an activity against a biological pathway required for proliferation, or that inhibits cellular proliferation, (8) identifying a gene required for cellular proliferation or the biological pathway in which a proliferation-required gene or its gene product lies or a gene on which the test compound that inhibits proliferation of an organism acts; (9) manufacturing an antibiotic; (10) profiling a compound's activity; (1) a culture comprising strains in which the est compound that inhibits the ground is activity; (1) a culture comprising strains in which the strains is present in a culture or collection of the which each of the strains is present in a culture or collection of strains, or (13) identifying the target of a compound that inhibits the proliferation of an organism. The antisense nucleic acids required for the proliferation of an expension of an organism or screening for homologous nucleic acids required for the proliferation of an organism or for a condition of an organism or for a condition actids required for for cellular proliferation of an organism or for a condition actids are useful for the proliferation of an organism or for a condition actids are useful for the proliferation of an organism or solular candidate molecules for rational
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 drug discovery programs, or for screening homologous nucleic acids required for proliferation in cells other than S. aureus, S. typhimurium, K. preumoniae or P. aeruginosa. The present sequence is encoded by one of the target prokaryotic essential genes. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at fixed by the printed the fixed by the fixed at the fixed 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Protein identification; signal transduction pathway; metabolic pathway; hybridisation assay; genetic mapping; gene expression control; promoter;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     55.6%; Score 5; DB 6; Length 330; 100.0%; Pred. No. 5.7e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Arabidopsis thaliana protein fragment SEQ ID NO: 14505.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAG14585 standard; protein; 331 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         99US-0121825P.
99US-0123180P.
99US-0123548P.
99US-0125788P.
99US-0126264P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    99US-0126785P.
99US-0127462P.
99US-0128234P.
99US-0128714P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  990S-0129845P.
990S-0130077P.
990S-0130449P.
99US-0130510P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 25-FEB-2000; 2000EP-00301439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              17-OCT-2000 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity 100.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  termination sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            179 DTFYY 183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4 DTFYY 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 330 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EP1033405-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        06-SEP-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 29-MAR-1999;
01-APR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  23-MAR-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     25-MAR-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   08-APR-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAG14585;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Best Loca
Matches
```

 			_
989 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	22 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	S - 0139462P S - 01397462P S - 01397463P S - 0139817P S - 0139817P S - 0140353P S - 0140353P S - 0140353P S - 0140353P S - 0140392P S - 0142892P S - 0142832P S - 0144086P S - 0144332P S - 0144333P S - 0144333P	F
11000000000000000000000000000000000000	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	00000000000011000000000044444444444444) }
777777777777777777		00000000000000000000000000000000000000	
		- Sn6.6 - Sn6.	3
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	;
	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	10000000000000000000000000000000000000	ì
PR- PPR- PPR- PPR- PPR- PPR- PPR- PPR-	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	4 - 4 - 4 - 4 - 4 - 4 - 4 - 4 - 4 - 4 -	
000000000000000000000000000000000000000	100000000000000000000000000000000000000		
######################################	2	8	1

990S-0144814P.
990S-0145086P.
990S-0145086P.
990S-0145087P.
990S-0145087P.
990S-0145087P.
990S-0145192P.
990S-0145192P.
990S-0145192P.
990S-0145214P.
990S-0145313P.
990S-0147303P.
990S-014932P.
990S-015130P.
990S-0159330P.

21-JUL-1999;
22-JUL-1999;
22-JUL-1999;
23-JUL-1999;
24-JUL-1999;
25-JUL-1999;
26-JUL-1999;
27-JUL-1999;
28-JUL-1999;
28-JU

```
concing a polypeptide whose expression is inhibited by the antisense nucleic acid; (2) a host cell containing the vector; (3) an isolated pulpapptide whose expression is inhibited by the antisense nucleic acid; (4) an antibody capable of specifically binding the polypeptide or its fragment whose expression is inhibited by the antisense nucleic acid; (4) an antibody capable of specifically binding the polypeptide; (5) producing the polypeptide; (6) inhibiting cellular confideration or the activity of a gene in an operon required for proliferation, or that has an activity against a biological pathway confideration, or that inhibits cellular proliferation; (8) identifying a gene required for cellular proliferation or the biological pathway in which a proliferation, or that inhibits proliferation of an organism acts; (9) manufacturing an antibiotic; (10) profiling a compound the test compound that inhibits proliferation of an organism acts; (9) manufacturing an antibiotic; (10) profiling a compound; a activity; (11) a culture comprising strains in which the gene product is overexpressed or underexpressed; (12) determining the extent of product is overexpressed or underexpressed; (12) determining the extent of compound; a activity; (11) a culture comprising strains in which the gene product is overexpressed or underexpressed; (12) determining the extent of compound; a culture or collection of the strains is present in a culture or collection of the strains; or (13) identifying the target of a compound that inhibits the confidentifying proteins or screening for homologous nucleic acids required for proliferation in cells other than S. aureus, S. typhimurium, K. prequence does not prove the printed specification, but was obtained of the target prokaryotic essential genes. Note: The sequence data for this patent did not form part of the printed specification, but was obtained for proliferation or an expanse.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Antisense; prokaryotic essential gene; cell proliferation; drug design.
      comprising a promoter operably linked to the nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Zyskind JW;
Xu HH;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 331;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ohlsen KL,
Forsyth RA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Protein encoded by Prokaryotic essential gene #619.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      55.6%; Score 5; DB 6; Le:
100.0%; Pred. No. 5.8e+02;
ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Haselbeck R,
Yamamoto R,
                                                                                                                                                                                                                                                                                                                                                                                                            ftp.wipo.int/pub/published_pct_sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ABU15092 standard; protein; 331 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Malone C,
Carr GJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         06-SEP-2001; 2001US-00948993.
25-OCT-2001; 2001US-0342923P.
08-FEB-2002; 2002US-00072851.
06-MAR-2002; 2002US-03626991.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              21-MAR-2002; 2002WO-US009107.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             21-MAR-2001; 2001US-00815242.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                19-JUN-2003 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (ELIT-) ELITRA PHARM INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Zamudio C,
Trawick JD,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 2003-029926/02.
N-PSDB; ACA18962.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           179 DTFYY 183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 œ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Escherichia coli.
                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 331 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WO200277183-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4 DTFYY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  03-OCT-2002.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ABU15092;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Wang L,
Wall D,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             New antisense nucleic acids, useful for identifying proteins or screening for homologous nucleic acids required for cellular proliferation to isolate candidate molecules for rational drug discovery programs.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       the 6213 antisense sequences given in the specification where expression of the nucleic acid inhibits proliferation of a cell. Also included are:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Antisense; prokaryotic essential gene; cell proliferation; drug design.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         The invention relates to an isolated nucleic acid comprising any one of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Zyskind JW;
Xu HH;
                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                  Length 331;
                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ohlsen KL,
Forsyth RA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Protein encoded by Prokaryotic essential gene #32911.
                                                                                                                                                                                                                                                                                                                DB 3; Ler
o. 5.8e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Haselbeck R,
Yamamoto R,
                                                                                                                                                                                                                                                                                                                        100.0%; Pred. www.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 25; SEQ ID NO 75308; 1766pp; English.
                                                                                                                                                                                                                                                                                                       Score 5; DE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ABU47384 standard; protein; 331 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Malone C,
Carr GJ,
                          9905-0160767P

9905-016070P-

9905-0160814P-

9905-0160818P-

9905-0160818P-

9905-0160981P-

9905-0161404P-

9905-0161406P-

9905-0161358P-

9905-0161361P-

9905-0161361P-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    21-MAR-2001; 2001US-00815242.
06-SEP-2001; 2001US-00948993.
25-OCT-2001; 2001US-0342923P.
08-FEB-2002; 2002US-0002851.
06-MAR-2002; 2002US-0362699P.
                                                                                                                                                                                                                                                                                                                55.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        21-MAR-2002; 2002WO-US009107
                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (BLIT-) ELITRA PHARM INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Salmomella typhimurium.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Zamudio C,
Trawick JD,
                                                                                                                                                                                                                                                                                               2003-029926/02
                                                                                                                                                                                                                                                                                                                                                                                           |||||
179 KVDDT 183
                                                                                                                                                                                                                                                                                                                                                                            ß
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      N-PSDB; ACA51254
                                                                                                                                                                                                                                                                                                                                                                            KVDDT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WO200277183-A2
                    21-0cf-199
21-0cf-199
21-0cf-199
21-0cf-1999
22-0cf-1999
22-0cf-1999
32-0cf-1999
5-0cf-1999
5-0cf-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          19-JUN-2003
                                                                                                                                                                                                                                                                                   29-OCT-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            03-OCT-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ABU47384;
                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Wang
Wall
******************
                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                      셤
```

08-FEB-2002; 2002US-00072851, 06-MAR-2002; 2002US-0362699P.

```
the invention relates to an isolated mucieto acid comprising any one of the nucleic acid inhibits proliferation of a cell. Also included are:

Co f the nucleic acid inhibits proliferation of a cell. Also included are:

Co of the nucleic acid inhibits proliferation of a cell. Also included are:

Co comprising a promoter operably linked to the nucleic acid

cnccling a polypeptide whose expression is inhibited by the antisense

nucleic acid; (2) a host cell containing the vector; (3) an isolated

Co polypeptide or its fragment whose expression is inhibited by the

antisense nucleic acid; (4) an antibody capable of specifically binding

the polypeptide of its fragment whose expression is inhibited by the

antisense nucleic acid; (4) an antibody capable of specifically binding

the polypeptide of its fragment whose expression is inhibited by the

antisense nucleic acid; (4) an antibody capable of specifically binding

the polypeptide of the activity of a gene in an operon required for

proliferation or that has an activity against a biological pathway

required for proliferation, or that inhibits cellular proliferation; (8)

identifying a gene required for cellular proliferation of the pathway in which a proliferation or that inhibits proliferation of an organism acts; (9) manufacturing an antibiotic; (10) profiling the extent

Co organism acts; (9) manufacturing an antibiotic; (10) profiling the extent

Co organism acts; (9) manufacturing an antibiotic; (10) profiling the compound that inhibits the compound section of an organism. The antisense nucleic acids are useful for the printerns or cellular proliferation to isolate compound that inhibits defined for proliferation in cells other than S. aureus, S. typhimurium,

Co dentifying proteins or screening for homologous nucleic acids activity arequired for proliferation in cells other than S. aureus, S. typhimurium,

Co patent did not forme part of the printed sequence is encoded by one of the view of the printed specification, but was obtained for the printed specif
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                  New antisense nucleic acids, useful for identifying proteins or screening for homologous nucleic acids required for cellular proliferation to isolate candidate molecules for rational drug discovery programs.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Antisense; prokaryotic essential gene; cell proliferation; drug design.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                           invention relates to an isolated nucleic acid comprising any
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 6; Length 331;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Protein encoded by Prokaryotic essential gene #6797.
                                                                                                            SEQ ID NO 43016; 1766pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    55.6%; Score 5; DB 6
100.0%; Pred. No. 5.8
:ive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ftp.wipo.int/pub/published_pct_sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ABU21270 standard; protein; 337 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           21-MAR-201; 2001US-00815242.
06-SEP-2001; 2001US-00948993.
25-OCT-2001; 2001US-0342923P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        21-MAR-2002; 2002WO-US009107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           19-JUN-2003 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity 100...
5, Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Burkholderia fungorum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          179 DTFYY 183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 331 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4 DTFYY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WO200277183-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           03-OCT-2002
                                                                                                              Claim 25;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ABU21270;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 134
셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
```

```
The invention relates to an isolated nucleic acid comprising any one or the face and an included and the face and an included are the face and an included are of the nucleic acid inhibits proliferation of a cell. Also included are:

CC (1) a vector comprising a promoter operably linked to the nucleic acid comprising a promoter operably linked to the nucleic acid comprising a promoter operably linked by the antisense conding a polypeptide whose expression is inhibited by the antisense nucleic acid; (2) a host cell containing the vector; (3) an isolated containing the polypeptide or its fragment whose expression is inhibited by the antisense nucleic acid; (4) an antibody capable of specifically binding the polypeptide; (5) producing the polypeptide; (6) inhibiting cellular containsense nucleic acid; (4) an antibody capable of specifically binding the polypeptide; (5) producing the polypeptide; (6) inhibiting cellular containsense nucleic acid; (7) identifying a cellular proliferation, or that has an activity against a biological pathway in which a proliferation, or that inhibits proliferation; (8) identifying a gene required gene or its gene product lies or a gene on which the test compound that inhibits proliferation of an organism acts; (9) manufacturing an antibiotic; (10) profiling a compound; a activity; (11) a culture comprising strains in which the gene product is overexpressed or underexpressed; (12) determining the extent compound; activity; (11) a culture comprising strains in which the gene product is overexpressed or underexpressed; (12) determining the extent of the present of a compound that inhibits the proliferation of an organism. The antisense nucleic acids are useful for cultular proliferation to isolate candidate molecules for rational contains, or for streening homologous nucleic acids for this credited for proliferation in cells other than S. aureus, S. typhimuring, credited for proliferation in collaboration and the present sequence is encoded by one of the trarget proversy programs, or for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                    New antisense nucleic acids, useful for identifying proteins or screening for homologous nucleic acids required for cellular proliferation to isolate candidate molecules for rational drug discovery programs.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Protein identification; signal transduction pathway; metabolic pathway; hybridisation assay; genetic mapping; gene expression control; promoter; termination sequence.
                                                                                                          Zyskind JW;
Xu HH;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                            invention relates to an isolated nucleic acid comprising any
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  55.6%; Score 5; DB 6; Length 337; 100.0%; Pred. No. 5.9e+02; ive 0; Mismatches 0; Indels
                                                                                                          Ohlsen KL,
Forsyth RA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Arabidopsis thaliana protein fragment SEQ ID NO: 68529.
                                                                                                          Haselbeck R,
Yamamoto R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100.0%; Pred. ...
                                                                                                                                                                                                                                                                                                                                Claim 25; SEQ ID NO 49194; 1766pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAG53800 standard; protein; 347 AA.
                                                                                                          Malone C,
Carr GJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
                                                              (ELIT-) ELITRA PHARM INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5; Conservative
                                                                                                          Zamudio C,
Trawick JD,
                                                                                                                                                                          2003-029926/02
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   117 KVDĎŤ 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 KVDDT 5
                                                                                                                                                                                               N-PSDB; ACA25140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 337 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       18-OCT-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAG53800;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                            'nά
                                                                                                            Wang |
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAG53800
à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
```

```
990S-0140991P.
990S-0141287P.
990S-0141284P.
990S-0142164P.
990S-01420S5P.
990S-014230P.
990S-014320P.
990S-0144331P.
990S-0144331P.
990S-0144331P.
990S-0144331P.
990S-0144331P.
990S-0144332P.
990S-0144331P.
990S-0149723P.
990S-0149723P.
990S-0149723P.
990S-0149723P.
990S-0150864P.
990S-0151080P.
990S-0151330P.
29-UN-1999;
30-UL-1999;
01-UL-1999;
02-UL-1999;
03-UL-1999;
04-UL-1999;
13-UL-1999;
14-UL-1999;
15-UL-1999;
16-UL-1999;
17-UL-1999;
18-UL-1999;
19-UL-1999;
19-UL-1999;
19-UL-1999;
19-UL-1999;
22-UL-1999;
22-UL-1999;
22-UL-1999;
22-UL-1999;
22-UL-1999;
23-UL-1999;
22-UL-1999;
22-UL-1999;
22-UL-1999;
23-UL-1999;
 990S-0121825P.
990S-0123180P.
990S-0125784P.
990S-0126784P.
990S-0126782P.
990S-0126734P.
990S-0128714P.
990S-013049P.
990S-013049P.
990S-0132407P.
990S-0132482P.
990S-0132482P.
990S-0132487P.
990S-0132482P.
990S-0132482P.
990S-0132482P.
990S-0132482P.
990S-0132482P.
990S-0134238P.
990S-013423P.
990S-013722P.
990S-013722P.
990S-013722P.
990S-013722P.
990S-013722P.
990S-013722P.
990S-013722P.
990S-013722P.
990S-0139453P.
990S-0139453P.
990S-0139453P.
990S-0139463P.
990S-0139463P.
990S-0139463P.
990S-0139463P.
990S-0139463P.
990S-0139463P.
                                                               2000EP-00301439
      Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                                                                                                                                                                         07-70N-1999;

10-70N-1999;

10-70N-1999;

11-70N-1999;

11-70N-1999;
                                                                                25-FEB-1999;
05-MAR-1999;
23-MAR-1999;
25-MAR-1999;
01-APR-1999;
06-APR-1999;
06-APR-1999;
16-APR-1999;
23-APR-1999;
23-APR-1999;
23-APR-1999;
23-APR-1999;
30-APR-1999;
06-MAY-1999;
06-MAY-1999;
06-MAY-1999;
                                                               25-FEB-2000;
                       EP1033405-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                       -JUN-1999;
                                           06-SEP-2000
```

. . .

```
This invention relates to a novel isolated DNA sequence which comprises a promoter or a promoter fragment of a mycobacterial secreted acid phosphatase (SAPM) gene, where the promoter or the promoter fragment is sufficient to control expression of a nucleotide sequence of interest and is inducible under low-pH conditions and where the promoter or the promoter fragment hybridise to a sapM promoter, for example a Mycobacterium tuberculosis sapM promoter, a M bovis sapM promoter, a M arinum sapM promoter, and cavium sapM promoter or a M marinum sapM promoter, each comprising a sequence of 500 bp, under high stringency hybridisation conditions. The invention may be useful for the production of compounds with an antibacterial or fungicide activity or for the production of a vaccine against Mycobacterium species comprising a mycobacterial secreted acid phosphatase (SAPM) or an antibody specific for a mycobacterial secreted acid phosphatase. The DNA sequence, methods, compounds, vaccine and compositions are useful in diagnosing, treating or preventing a compositions are useful in diagnosing, treating or preventing a pathogenic mycobacterial disease or fungal infection. The present
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Protein identification; signal transduction pathway; metabolic pathway; hybridisation assay; genetic mapping; gene expression control; promoter; termination sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                        New mycobacterial secreted acid phosphatase, useful in diagnosing, treating or preventing a pathogenic mycobacterial disease or fungal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 348;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Arabidopsis thaliana protein fragment SEQ ID NO: 33493.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             55.6%; Score 5; DB 8; L
100.0%; Pred. No. 6e+02;
Live 0; Mismatches 0
                                                                                                                                                                                                                                                                                                                                                         Disclosure; SEQ ID NO 19; 87pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAG28320 standard; protein; 368 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             99US-0121825P.
99US-0123180P.
99US-0123548P.
99US-0125788P.
09-OCT-2003; 2003WO-CA001554.
                                            09-OCT-2002; 2002US-0416957P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   25-FEB-2000; 2000EP-00301439.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             17-OCT-2000 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Arabidopsis thaliana.
                                                                                                                                                                                       WPI; 2004-364868/34.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          214 DDTFY 218
                                                                                                                                           Liu J, Saleh MT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3 DDTFY 7
                                                                                                                                                                                                                N-PSDB; ADN00788
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 348 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        the invention.
                                                                                           (LIUJ/) LIU J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             25-FEB-1999;
05-MAR-1999;
09-MAR-1999;
23-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EP1033405-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    06-SEP-2000.
                                                                                                                                                                                                                                                                                                               infection.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAG28320;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAG2832(
ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  promoter; mycobacterial secreted acid phosphatase; SAPM; sapM promoter; antibacterial; fungicide; vaccine; pathogenic mycobacterial disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .,
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        55.6%; Score 5; DB 3; Length 347; llarity 100.0%; Pred. No. 6e+02; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mycobacterium sapM-related P chyrosgenum protein SeqID19.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADN00790 standard; protein; 348 AA.
                 99US-0154018P.
99US-0154039P.
99US-015439P.
99US-0155139P.
99US-0156458P.
99US-015659P.
99US-015659P.
99US-0157117P.
99US-0157313P.
99US-0158369P.
99US-0158369P.
99US-0159231P.
99US-0159231P.
99US-0159231P.
99US-0159231P.
99US-016931P.
99US-0160741P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    990S-0161360P.
990S-0161361P.
990S-0161920P.
990S-0161992P.
990S-0161993P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Penicillium chrysogenum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           190 DTFYY 194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4 DTFYY 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 fungal infection.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WO2004033677-A2.
                                                                                                                                                                                                                               0.05-0CT-1999;
0.07-0CT-1999;
107-0CT-1999;
113-0CT-1999;
113-0CT-1999;
114-0CT-1999;
114-0CT-1999;
114-0CT-1999;
114-0CT-1999;
116-0CT-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    15-JUL-2004
                                                                                                                                                          28-SEP-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       22-APR-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                26-OCT-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADN00790;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADN00790
```

셤

8

ò

0-Sn6 0-Sn6 0-Sn6 0-Sn6 0-Sn6 0-Sn6 0-Sn6 0-Sn6	99US-0132486P. 99US-0132863P. 99US-0132863P. 99US-0134218P. 99US-0134218P. 99US-0134218P. 99US-013421P. 99US-013421P. 99US-013421P. 99US-0135124P. 99US-0136782P. 99US-0137524P. 99US-0137524P. 99US-0137524P.	0 - She 0 - Sh	0-sne 0-sne 0-sne 0-sne 0-sne 0-sne 0-sne 0-sne 0-sne 0-sne 0-sne
- MAR - 1999 - MAR - 1999 - APR - 1999	06-MAX-1999; 07-MAX-1999; 11-MAX-1999; 14-MAY-1999; 14-MAY-1999; 14-MAY-1999; 18-MAY-1999; 19-MAY-1999; 20-MAY-1999; 21-MAY-1999; 22-MAY-1999; 22-MAY-1999; 23-MAY-1999; 04-JUN-1999; 04-JUN-1999; 04-JUN-1999; 04-JUN-1999; 06-JUN-1999; 06-JUN-1999; 06-JUN-1999; 06-JUN-1999;		- 70N-1999 - 70N-1999 - 70N-1999 - 70N-1999 - 70N-1999 - 70N-1999 - 70N-1999 - 70N-1999 - 70N-1999 - 70N-1999
* * * * * * * * * * * * * * * * * * * *	% % % % % % % % % % % % % % % % % % %	:	

PR 16-JUL-1999; 99US-0144086P
PR 19-JUL-1999; 99US-0144312P
PR 19-JUL-1999; 99US-0144312P
PR 19-JUL-1999; 99US-0144313P
PR 20-JUL-1999; 99US-0144313P
PR 20-JUL-1999; 99US-0144313P
PR 20-JUL-1999; 99US-0144313P
PR 21-JUL-1999; 99US-0144313P
PR 22-JUL-1999; 99US-0144313P
PR 22-JUL-1999; 99US-0144313P
PR 22-JUL-1999; 99US-0145086P
PR 22-JUL-1999; 99US-014508P
PR 22-JUL-1999; 99US-014508P
PR 22-JUL-1999; 99US-014508P
PR 22-JUL-1999; 99US-014531P
PR 23-JUL-1999; 99US-0143175P
PR 23-JUL-1999; 99US-0143175P
PR 23-JUL-1999; 99US-0143175P
PR 23-JUL-1999; 99US-014313P
PR

```
990S-0130510P
990S-013049P
990S-0132048P
990S-0132484P
990S-0132484P
990S-0132486P
990S-0132486P
990S-0132480P
990S-0132863P
990S-0134256P
990S-0134218P
990S-0134218P
990S-0134218P
990S-0134218P
990S-0134218P
990S-0134218P
990S-0134218P
990S-0134218P
                                                                                                                                                                                                                                                                                                                                                                                                        990S-0138847P.
990S-0139119P.
990S-0139453P.
990S-0139492P.
990S-0139454P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  990S-0139456P.
990S-0139457P.
990S-0139461P.
990S-0139461P.
990S-0139461P.
990S-0139461P.
990S-0139461P.
990S-0139463P.
990S-0139817P.
990S-014033P.
990S-0140635P.
990S-0140695P.
990S-0140695P.
990S-0140695P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9903-0144085P.
9903-0144086P.
9903-0144325P.
9903-0144331P.
9903-0144333P.
9903-0144333P.
                                                                                                                                                                                                                                                                                                                                        99US-0137528P.
99US-0137502P.
99US-0137724P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  990S-0142390P.
990S-0142803P.
990S-0142920P.
990S-0142977P.
990S-0143542P.
                                                                                                                                                                                                                                                                                                               99US-0136782P.
                                                                                                                                                                                                                                                                                                                                                                               99US-0138094P
    21-APR-1999;
23-APR-1999;
28-APR-1999;
30-APR-1999;
30-APR-1999;
04-MAY-1999;
06-MAY-1999;
06-MAY-1999;
07-MAY-1999;
11-MAY-1999;
11-MAY-1999;
11-MAY-1999;
11-MAY-1999;
11-MAY-1999;
11-MAY-1999;
11-MAY-1999;
                                                                                                                                                                                                                                                                        24-MAY-1999;
25-MAY-1999;
27-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              19-JUL-1999;
19-JUL-1999;
19-JUL-1999;
                                                                                                                                                                                                                    18-MAY-1999;
19-MAY-1999;
                                                                                                                                                                                                                                             20-MAY-1999;
21-MAY-1999;
                                                                                                                                                                                                                                                                                                               28-MAY-1999;
01-JUN-1999;
                                                                                                                                                                                                                                                                                                                                          03-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                               08-JUN-1999;
                                                                                                                                                                                                                                                                                                                                                                                                          10-JUN-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                        14-JUN-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                 16-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ,8-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               18-JUN-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       11-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                23-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            24-JUN-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         28-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                30-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  15-JUL-1999;
     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Protein identification, signal transduction pathway, metabolic pathway, hybridisation assay, genetic mapping, gene expression control, promoter; termination sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                    Length 368;
                                                                                                                                                                                                                                                                                                                                                                                                                                                0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Arabidopsis thaliana protein fragment SEQ ID NO: 33492.
                                                                                                                                                                                                                                                                                                                                                                                                                     DB 3; Le
                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 55.6%; Score 5; DB 3
Best Local Similarity 100.0%; Pred. No. 6.4
Matches 5; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAG28319 standard; protein; 370 AA.
99US-0158232P.
99US-0159291P.
99US-0159291P.
99US-0159292P.
99US-0159331P.
99US-0159331P.
99US-0159331P.
99US-0159331P.
99US-0159638P.
99US-0160741P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    990S-0121825P.
990S-0123180P.
990S-0125384P.
990S-0126264P.
990S-0126783P.
990S-0128234P.
990S-0128234P.
990S-0128345P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             25-FEB-2000; 2000EP-00301439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        17-OCT-2000 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          326 DTFYY 330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         æ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DTFYY
            12-001-1999
13-007-1999
13-007-1999
14-007-1999
14-007-1999
14-007-1999
14-007-1999
12-007-1999
21-007-1999
22-007-1999
22-007-1999
22-007-1999
25-007-1999
26-007-1999
26-007-1999
26-007-1999
26-007-1999
26-007-1999
26-007-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    25-FEB-1999;
05-MAR-1999;
09-MAR-1999;
23-MAR-1999;
25-MAR-1999;
06-APR-1999;
06-APR-1999;
06-APR-1999;
16-APR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EP1033405-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  06-SEP-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAG28319;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAG2831
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HANGE STATES OF THE STATES OF 
  g
```

```
ADH87165;
                                                                                                                                                                                                                                                                                                                                                                              328
                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                     Local
                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 139
                                                                                                                                                                                                                                                                                                                     Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                               ADH87165
          ઠે
                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                       990S-0144632P.
990S-0144632P.
990S-0144814P.
990S-0145086P.
990S-0145086P.
990S-0145089P.
990S-0145089P.
990S-0145089P.
990S-0145218P.
990S-0145319P.
990S-0149313P.
990S-0149313P.
990S-0149313P.
990S-0149313P.
990S-0149313P.
990S-0149313P.
990S-0149313P.
990S-0149313P.
990S-0149313P.
990S-0151080P.
990S-0151080P.
990S-0151080P.
990S-0151080P.
990S-0151080P.
990S-015103P.
20-JUL-1999;
20-JUL-1999;
20-JUL-1999;
21-JUL-1999;
21-JUL-1999;
22-JUL-1999;
22-JUL-1999;
23-JUL-1999;
23-JUL-1999;
23-JUL-1999;
23-JUL-1999;
23-JUL-1999;
                                                                                                                                                                                                                                                                         04-AUG-1999

05-AUG-1999

05-AUG-1999

06-AUG-1999

06-AUG-1999

10-AUG-1999

11-AUG-1999

11-AU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     27-AUG-1999;
30-AUG-1999;
31-AUG-1999;
01-SEP-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          --OCT-1999;
--OCT-1999;
--OCT-1999;
--OCT-1999;
--OCT-1999;
--OCT-1999;
                                                                                                                                                                                       27-JUL-1999;
27-JUL-1999;
28-JUL-1999;
02-AUG-1999;
                                                                                                                                                                                                                                       02-AUG-1999;
02-AUG-1999;
03-AUG-1999;
                                                                                                                                                               26-JUL-1999;
27-JUL-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     25-AUG-1999;
26-AUG-1999;
27-AUG-1999;
27-AUG-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -SEP-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         13-OCT-1999;
14-OCT-1999;
14-OCT-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEP-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -SEP-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEP-1
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New nucleic acid comprising a sequence encoding an Enterococcus fecalis polypeptide, useful for preparing a composition for diagnosing or treating E. fecalis infection.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The invention relates to Enterococcus faecalis polynucleotides and polypeptides. The invention also relates to a recombinant expression vector comprising a polynucleotide operably linked to a transcription
                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Enterococcus faecalis infection; transcription regulatory element; antibacterial.
                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                         Length 370;
                                                                                                                                                                                                                                                                                                                                                                                                      0; Indels
                                                                                                                                                                                                                                                                                                                                                                                         6.4e+02;
                                                                                                                                                                                                                                                                                                                                                                         DB 3;
                                                                                                                                                                                                                                                                                                                                                             55.6%; Scor.
100.0%; Pred. No. o...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Disclosure; SEQ ID NO 5050; 193pp; English.
                                                                                                                                                                                                                                                                                                                                                         Score 5; DE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Enterococcus faecalis polypeptide #1645.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ADH87165 standard; protein; 370 AA.
              990S-0159637P

990S-0160564P

990S-0160767P

990S-0160768P

990S-0160768P

990S-0160814P

990S-0160814P

990S-0160818P

990S-016088P

990S-016088P

990S-016194P

990S-016194P

990S-016194P

990S-016194P

990S-016194P

990S-016194P

990S-016194P
                                                                                                                                                                                                                                                                                                                                          99US-0162142P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          98US-00134000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      97US-0055778P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Bush D;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       22-APR-2004 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                     Similarity 100
5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (DOUC/) DOUCETTE-STAMM L
(BUSH/) BUSH D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Enterococcus faecalis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 2003-895394/82.
N-PSDB; ADH83760.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Doucette-Stamm LA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                            DTFYY 332
                                                                                                                                                                                                                                                                                                                                                                                                                                    4 DTFYY 8
14-0CT-1999;
14-0CT-1999;
18-0CT-1999;
21-0CT-1999;
21-0CT-1999;
21-0CT-1999;
21-0CT-1999;
22-0CT-1999;
22-0CT-1999;
25-0CT-1999;
26-0CT-1999;
26-0CT-1999;
26-0CT-1999;
26-0CT-1999;
28-0CT-1999;
28-0CT-1999;
28-0CT-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          13-AUG-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US6617156-B1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      15-AUG-1997;
                                                                                                                                                                                                                                                                                                                                          29-OCT-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           09-SEP-2003.
```

.

```
셤
                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                           ö
regulatory element, a cell comprising a recombinant vector, a method for producing an E. faecalis polypeptide, an isolated nucleic acid comprising a sequence not given in the specification, a recombinant vector comprising the nucleic acid and a cell comprising the recombinant vector. The polynucleotides can be used to detect the presence of E. faecalis in a sample. The sequences are useful for preparing a composition for diagnosing or treating Enterococcus faecalis infection. This sequence represents an E. faecalis polypeptide of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The present sequence represents a lysophosphatidic acid acetyltransferase (LPAAT) isoenzyme. The nucleic acid may be used to create transgenic plants which encode LPAAT at higher or lower levels than normal or in cell types or developmental stages in which they are not normally found. This would have the effect of altering the level of specific triacylglycerols in those cells, for e.g. overexpression of an LPAAT similar to the maize LPAAT will result in higher oil content in the seed, stem and leaf. LPAAT chimeric genes may be used for co-suppression of genes encoding LPAAT. The polymuclostides may also be used as probes for genetically and physically mapping the genes that are a part of, and as markers for traits linked to those genes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New nucleic acid fragment encoding a lysophosphatidic acid acetyltransferase (LPAAT) isozyme, useful for creating transgenic plants which encode LPAAT at higher or lower levels than normal.
                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                 Lysophosphatidic acid acetyltransferase; LPAAT; transgenic plant;
                                                                                                                                                                                                                                                                                                                                                                      Amino acid sequence of a lysophosphatidic acid acetyltransferase.
                                                                                                                                                                           ö
                                                                                                                                             55.6%; Score 5; DB 7; Length 370; 100.0%; Pred. No. 6.4e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ripp KG;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Cahoon RE, Hitz WD, Kinney AJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 10; Page 82-83; 102pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (DUPO ) DU PONT DE NEMOURS & CO E I.
                                                                                                                                                                                                                                                                                          AAB08467 standard; protein; 373 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    22-FEB-2000; 2000WO-US004526.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             99US-0121119P.
                                                                                                                                                                                                                                                                                                                                                                                                               triacylglycerol; oil content
                                                                                                                                                                                                                                                                                                                                            20-DEC-2000 (first entry)
                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 2000-558300/51.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
Matches 5; Conserved
                                                                                                                                             Query Match
Best Local Similarity
                                                                                                                                                                                                                            145 KVDDT 149
                                                                                                                                                                                                   1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       N-PSDB; AAA64189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 373 AA;
                                                                                                                      Sequence 370 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                WO200049156-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             22-FEB-1999;
                                                                                                                                                                         5,
                                                                                                                                                                                                                                                                                                                                                                                                                                        Glycine max
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           24-AUG-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Cahoon EB,
                                                                                                                                                                                                                                                                                                                    AAB08467;
                                                                                                                                                                                                                                                                 RESULT 140
                                                                                                                                                                         Matches
  8888888888888
                                                                                                                                                                                                   ò
```

```
ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The invention relates to a method for enhancing an immune response to endogenous antigens comprising administering a B2L viral envelope protein of a Parapox virus to a subject. The method is used to enhance an immune response to endogenous antigens, associated with a cell proliferative disorder or infectious pathogens. The method is used to treat a patient having a cell proliferative disorder, or to elicit an immune or inflammatory response in a subject. The method is also used for identifying compounds with the ability to modify a subject's immune and/or inflammatory response. The method is used to treat cancer and can enhance a subject's immune response to non-administered antigens. This sequence represents a B2L protein of the invention. Note: The specification states that this sequence is encoded by the DNA displayed in SEQ ID NO:2, but this does not appear to be the case.
                                                                                                                                                                                                                                                                                                                                                                                                                                B2L; viral envelope protein; Parapox virus; cell proliferative disorder; immune response; inflammatory response; cancer; immunostimulant; immunosuppressive; antiinflammatory; cytostatic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Enhancing an immune response to endogenous antigens e.g. for treating cancer, comprises administering a B2L Parapox viral envelope protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Samuels I, Dubois-Stringfellow N;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 7; Length 378;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         55.6%; Score 5; DB 7; Le 100.0%; Pred. No. 6.5e+02; ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Disclosure; SEQ ID NO 1; 22pp; English
                                                                                                                                                                                                     Ź
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ADD02200 standard; protein; 378 AA.
                                                                                                                                                                                               ADD02198 standard; protein; 378
                                                                                                                                                                                                                                                                                                                                                                          B2L viral envelope protein #1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DUBOIS-STRINGFELLOW N.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Parapoxvirus ovis strain NZ2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          06-DEC-2002; 2002US-00313332.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   07-DEC-2001; 2001US-0336694P.
                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Cassell D, Tepper JS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 2003-801275/75.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TEPPER J S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (CASS/) CASSELL D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 325 VDDTF 329
                                                     9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SAMUELS I
  9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          N-PSDB; ADD02199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 378 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US2003109483-A1.
                                                     56 VDDTF
VDDTF
                                                                                                                                                                                                                                                                                                                 01-JAN-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 12-JUN-2003.
  N
                                                                                                                                                                                                                                                           ADD02198;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (TEPP/) 1
(SAMU/) 8
(DUBO/) I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 142
ADD02200
ID ADD022
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                          ADD02198
```

ö

0; Gaps

Similarity 100.0%; Pred. No. 6.4e+02; 5; Conservative 0; Mismatches 0; Indels

```
ADJ63963
δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        The invention relates to a method for enhancing an immune response to endogenous antigens comprising administering a B2L viral envelope protein of a Parapox virus to a subject. The method is used to enhance an immune response to endogenous antigens, associated with a cell proliferative disorder or infectious pathogens. The method is used to treat a patient having a cell proliferative disorder, or to elicit an immune or inflammatory response in a subject. The method is also used for reflammatory response. The method is used to treat and can identifying compounds with the ability to modify a subject's immune and/or inflammatory response. The method is used to treat cancer and can enhance a subject's immune response to non-administered antigens. This
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                         B2L; viral envelope protein; Parapox virus; cell proliferative disorder; immune response; inflammatory response; cancer; immunostimulant; immunosuppressive; antiinflammatory; cytostatic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Immune response; B2L viral envelope protein; Parapox virus; adjuvant;
PP30 protein; virucide; cytostatic; tuberculostatic; virucide; anti-HIV;
vaccine; tumour; flu; tuberculosis; respiratory syncytial virus; anthrax;
HIV infection.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Enhancing an immune response to endogenous antigens e.g. for treating cancer, comprises administering a B2L Parapox viral envelope protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Parapox virus B2L protein from parapox virus from strain D1701.
                                                                                                                                                                                                                                                                                                                                                                                                                                          Dubois-Stringfellow N;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 378;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        sequence represents a B2L protein of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         55.6%; Score 5; DB 7; Le: 100.0%; Pred. No. 6.5e+02; iive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Disclosure; SEQ ID NO 3; 22pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                          Samuels I,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ADJ63965 standard; protein; 378 AA.
                                                                                                                                                                               Parapoxvirus ovis strain D1701
                                                                         B2L viral envelope protein #2.
                                                                                                                                                                                                                                                                                                                                                                                        (SAMU/) SAMUELS I.
(DUBO/) DUBOIS-STRINGFELLOW N.
                                                                                                                                                                                                                                                                                   06-DEC-2002; 2002US-00313332
                                                                                                                                                                                                                                                                                                                    07-DEC-2001; 2001US-0336694P
                                          01-JAN-2004 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity 100.
nes 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                         Cassell D, Tepper JS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 2003-801275/75.
                                                                                                                                                                                                                                                                                                                                                   (CASS/) CASSELL D. (TEPP/) TEPPER J S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              325 VDDTF 329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            N-PSDB; ADD02201.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2 VDDTF 6
                                                                                                                                                                                                                US2003109483-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 378 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      06-MAY-2004
                                                                                                                                                                                                                                                  12-JUN-2003
        ADD02200;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADJ63965;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
```

```
This invention relates to a novel composition for enhancing an immune response to an antigen comprising administering to a subject mammal a B2L response to an antigen comprising administering to a subject mammal a B2L viral servalope protein of a Parapox virus and an antigen, and detecting a resultant enhanced, specific immune response to the antigen. The B2L protein is unassociated with the B2L protein in the virus, and acts as adjuvant to cenhance the immune response to the antigen. The invention also discloses a pharmaceutical composition for enhancing an immune response to an antigen, the composition preferably comprises the PB30 protein of a parapox virus or the nucleic acid encoding the protein and the antigen or the nucleic acid encoding the protein and the antigen or the nucleic acid encoding the protein of the invention composition and the antigen or the nucleic acid encoding the protein is PP30 protein of a crivity and may be used as a vaccine. The protein is PP30 protein of a crivity and may be used as a vaccine. The protein is PP30 protein of a crimune response to an antigen for treating or preventing tumour, flu, tuberculosis, or respiratory syncytial virus, anthrax or HIV infections. The present sequence represente the parapoxvirus B2L viral envelope con the parapox virus protein from Parapox virus strain D1701 used to create the composition of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Enhancing an immune response to an antigen by administering to a subject mammal a B2L viral envelope protein of a Parapox virus and an antigen and detecting a resultant enhanced, specific immune response to the antigen.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Immune response; B2L viral envelope protein; Parapox virus; adjuvant; PP30 protein; virucide; cytostatic; tuberculostatic; virucide; anti-HIV; vaccine; tumour; flu; tuberculosis; respiratory syncytial virus; anthrax; HIV infection; virus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 7; Length 378; 
5. 6.5e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       55.6%; Score 5; DB 7
100.0%; Pred. No. 6.5
:ive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Disclosure; SEQ ID NO 4; 10pp; English.
                                                                                                                                                      /note= "Encoded by GTG"
                                                                       Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADJ63963 standard; protein; 378 AA.
                                                                                                                                                                                                                                                                                                                                                                                                     15-APR-2003; 2003US-00414609
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 15-APR-2002; 2002US-00123058
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Johnston SA, Mcguire MJ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Parapox virus B2L protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (JOHN/) JOHNSTON S A (MCGU/) MCGUIRE M J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 2003-844451/78.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 325 VDĎTF 329
                                                                                                                     Misc-difference 9
Orf virus; D1701.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 378 AA;
                                                                                                                                                                                                                                      US2003194737-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2 VDDTF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      06-MAY-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ADJ63963;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
```

ö

ઠે

```
The present invention relates to a method of stimulation the immune system. The method involves administration of an immunostimulatory peptides are jobypeptide from Parapoxvirus. Two immunostimulatory peptides are identified in the present invention and designated BSWL and PP30. Also disclosed are the polymucleotide sequences encoding them. The BSWL polymucleotide induces dendritic cell accumulation when expressed in skin, and the PP30 polymucleotide exhibite adjuvant activity in the absence of stimulating dendritic cell accumulation at the site of incculation. When co-incculated, both genes acts as adjuvants in stimulating an immune response. The sequences of the invention are useful for stimulation of an immune system in a subject, preferably mammal, especially human or mouse. The method enhances immune response induced by gene vaccines. The present sequence represents Parapoxvirus BSWL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Immune system stimulation; immunostimulatory polypeptide; Parapoxvirus; BZWL; PP30; dendritic cell accumulation; skin; adjuvant activity; immune response; gene vaccine; immunostimulant.
                                                                                                                                                                                                                                                                                                                                Stimulation of an immune system involves use of an immunostimulatory polypeptide from parapox virus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              55.6%; Score 5; DB 8; Length 378; 100.0%; Pred. No. 6.5e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                           Claim 3; SEQ ID NO 2; 26pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ADG46067 standard; protein; 378 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Parapoxvirus B2WL polypeptide #2.
                                               15-APR-2002; 2002US-00123058.
                                                                                            15-APR-2002; 2002US-00123058
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 15-APR-2002; 2002US-00123058.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  15-APR-2002; 2002US-00123058.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                26-FEB-2004 (first entry)
                                                                                                                                                                                                                Johnston SA, Mcguire MJ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Johnston SA, Mcguire MJ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Orf virus, strain D1701.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (JOHN/) JOHNSTON S A.
                                                                                                                                        (JOHN/) JOHNSTON S A. (MCGU/) MCGUIRE M J.
                                                                                                                                                                                                                                                             WPI; 2004-041264/04.
N-PSDB; ADG46064.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (MCGU/) MCGUIRE M J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                325 VDDTF 329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 378 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US2003194695-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          polypeptide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 16-OCT-2003.
16-OCT-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADG46067;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADG46067
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         This invention relates to a novel composition for enhancing an immune response to an antigen comprising administering to a subject mammal a B2L viral envelope protein of a Parapox virus and an antigen, and detecting a resultant enhanced, specific immune response to the antigen. The B2L protein is unassociated with other envelope components naturally associated with the B2L protein in the virus, and acts as adjuvant to enhance the immune response to the antigen. The invention also discloses a pharmaceutical composition for enhancing an immune response to an antigen, the composition preferably comprises the PP30 protein of a natigen, the nucleic acid encoding the protein and the antigen or the nucleic acid encoding the protein of the invention may have virucide, cytostatic, tuberculostatic, virucide or anti-HIV cativity and may be used as a vaccine. The protein is PP30 protein of a parapox virus. The method of the invention is useful for enhancing an immune response to an antigen for treating or preventing tumour, flu, the protein is anthrax or HIV infections.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Enhancing an immune response to an antigen by administering to a subject mammal a B2L viral envelope protein of a Parapox virus and an antigen and detecting a resultant enhanced, specific immune response to the antigen.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Immune system stimulation; immunostimulatory polypeptide; Parapoxvirus; B2WL; PP30; dendritic cell accumulation; skin; adjuvant activity; immune response; gene vaccine; immunostimulant.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The present sequence represents the parapoxvirus B2L viral envelope protein used to create the composition of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      55.6%; Score 5; DB 7; Length 378; 100.0%; Pred. No. 6.5e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Disclosure; SEQ ID NO 2; 10pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADG46065 standard; protein; 378 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Parapoxvirus B2WL polypeptide #1.
                                                                                                                                                                                                            15-APR-2002; 2002US-00123058
                                                                                                                                                               15-APR-2003; 2003US-00414609
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (first entry)
                                                                                                                                                                                                                                                                                                                                Johnston SA, Mcguire MJ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Orf virus; strain D1701.
                                                                                                                                                                                                                                                           (JOHN/) JOHNSTON S A.
                                                                                                                                                                                                                                                                                 (MCGU/) MCGUIRE M J.
                                                                                                                                                                                                                                                                                                                                                                                WPI; 2003-844451/78.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    325 VDDTF 329
                   Orf virus; OV NZ2.
                                                                                                                                                                                                                                                                                                                                                                                                      N-PSDB; ADJ63962
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 378 AA;
                                                                US2003194737-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US2003194695-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     26-FEB-2004
                                                                                                               16-OCT-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADG46065;
```

RESULT 145 ADG46065

셤

ò

ö

Gaps

```
system. The method involves administration of an immunostimulatory polypeptide from Parapoxvirus. Two immunostimulatory peptides are identified in the present invention and designated B2ML and PP30. Also disclosed are the polymucleotide sequences encoding them. The B2ML polymucleotide equences encoding them. The B2ML polymucleotide exhibits adjuvant activity in the absence of stimulating dendritic cell accumulation when expressed in absence of stimulating dendritic cell accumulation at the site of incoulation. When co-inoculated, both genes acts as adjuvants in stimulating an immune response. The sequences of the invention are useful for stimulating on immune system in a subject, preferably mammal, especially human or mouse. The method enhances immune response induced by gene vaccines. The present sequence represents Parapoxvirus B2ML
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             tumour antigen; flu; tuberculosis; respiratory syncytial virus; anthrax; HIV; immunostimulant; virucide; anti-HIV; D1701.
                                                                                                                         Stimulation of an immune system involves use of an immunostimulatory polypeptide from parapox virus.
                                                                                                                                                                                                                                                                                       The present invention relates to a method of stimulation the immune
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        B2L viral envelope protein; Parapoxvirus; immune response;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                55.6%; Score 5; DB 8; Length 378; 100.0%; Pred. No. 6.5e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /note= "Encoded by GTG"
                                                                                                                                                                                                                       Claim 3; SEQ ID NO 4; 26pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADK01348 standard; protein; 378 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  15-APR-2003; 2003US-00414759
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           07-DEC-2001; 2001US-0336694P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Johnston SA, Mcguire
                              WPI; 2004-041264/04.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (JOHN/) JOHNSTON S P
(MCGU/) MCGUIRE M J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 2004-247782/23.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        325 VDDTF 329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        D1701 B2L protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Misc-difference 9
                                                                N-PSDB; ADG46066.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 378 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 N-PSDB; ADK01347
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US2004054159-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Parapoxvirus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      polypeptide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           03-JUN-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     18-MAR-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADK01348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 147
ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TX B X L X X B X X B X X L L L B X O X X M M X B X L X C X C X M M X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B
```

Enhancing an immune response to an antigen, useful in preventing and/or

ö

Gaps

;

```
ö
                                                                                                   The invention relates to a method of enhancing an immune response to an antigen comprising administering to a mammal an amount of a B2L viral envelope protein of a Paraposvirus and an antigen. The B2L protein acts as an adjuvant to enhance the immune response to the antigen. The antigen comprising the antigen administered as an attenuated or killed pathogen comprising the antigen. The B2L protein and the antigen are administered sequentially or simultaneously as a fusion protein. The method and composition are useful in enhancing an immune response to an antigen such as a tumour antigen. The composition is useful in preventing and/or treating flu, tuberculosis, respiratory syncytial virus, anthrax and HIV. This sequence represents the D1701 B2L protein, used in the scope of the
treating flu, tuberculosis, respiratory syncytial virus, anthrax and HIV, by administering B2L viral envelope protein of a Parapox virus and an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         B2L viral envelope protein; Parapoxvirus; immune response;
tumour antigen; flu; tuberculosis; respiratory syncytial virus; anthrax;
HIV; envelope antigen; p37K; immunostimulant; virucide; anti-HIV.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Enhancing an immune response to an antigen, useful in preventing and/or treating flu, tuberculosis, respiratory syncytial virus, anthrax and HIV, by administering BZL viral envelope protein of a Parapox virus and an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The invention relates to a method of enhancing an immune response to an antigen comprising administering to a mammal an amount of a B2L viral envelope protein of a Parapoxvirus and an antigen. The B2L protein acts
                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                      55.6%; Score 5; DB 8; Length 378; 100.0%; Pred. No. 6.5e+02; ive 0; Mismatches 0; Indels
                                                                        Disclosure, SEQ ID NO 4; 8pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Disclosure; SEQ ID NO 2; 8pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ADX01346 standard; protein; 378 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Envelope antigen p37K polypeptide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    07-DEC-2001; 2001US-0336694P. 06-DEC-2002; 2002WO-US038971.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  15-APR-2003; 2003US-00414759.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                           Local Similarity 100.
1es 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mcguire MJ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (JOHN/) JOHNSTON S A. (MCGU/) MCGUIRE M J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 2004-247782/23.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           325 VDDTF 329
                                                                                                                                                                                                                                                                                                                                                                                                                                                               2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       N-PSDB; ADK01345.
                                                                                                                                                                                                                                                                                                                                                     Sequence 378 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US2004054159-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Johnston SA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Parapoxvirus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    03-JUN-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             18-MAR-2004.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADK01346;
                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 14
ADK01346
 ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠે
```

Sequence 378 AA;

Š

```
ö
             is a tumour antigen administered as an attenuated or killed pathogen comprising the antigen. The B2L protein and the antigen are administered sequentially or simultaneously as a fusion protein. The method and composition are useful in enhancing an immune response to an antigen as a tumour antigen. The composition is useful in preventing and/or treating flu, tuberculosis, respiratory syncytial virus, anthrax and HIV. This sequence represents the envelope antigen p37K, used in the scope of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The present invention provides a method for enhancing a subject's immune response to an administered antigen and/or an active component of a waccing by administering an amount of a B2L viral envelope protein and an immunostimulatory protein PP30 of a Parapox virus. The method and composition of the invention is useful for enhancing an immune response to an antigen such as a tumour antigen. The invention is useful as an adjuvant for vaccine for preventing and/or treating flu, tuberculosis, respiratery syncytial virus, anthrax and human immunodeficiency virus (HIV). The invention is also useful in the preparation of vaccine. The present sequence is Parapox ovis B2L viral envelope protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Immune response; B2L; viral envelope protein; immunostimulatory protein; PP30; tumour antigen; flu; tuberculosis; respiratory syncytial virus; anthrax; vaccine; immunostimulant; virucide; antitubercular;
                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Enhancing an immune response to an antigen comprises administering a
Parapox B2L protein and an antigen to the mammal.
                                                                                                                                                                                                                                                                   ö
adjuvant to enhance the immune response to the antigen.
                                                                                                                                                                                                                          55.6%; Score 5; DB 8; Length 378; 100.0%; Pred. No. 6.5e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Parapox ovis strain NZ2 B2L viral envelope protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Disclosure; SEQ ID NO 2; 10pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                   ADT99512 standard; protein; 378 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              07-DEC-2001; 2001US-0336694P.
15-APR-2002; 2002US-00123058.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             28-MAY-2004; 2004US-00857546
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    06-DEC-2002; 2002WO-US038971
15-APR-2003; 2003US-00414609
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             tuberculostatic; anti-HIV.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ĕ,
                                                                                                                                                                                                                                                                 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Johnston SA, Mcguire
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (JOHN/) JOHNSTON S A. (MCGU/) MCGUIRE M J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 2004-765577/75.
                                                                                                                                                                                                                          Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                      325 VDDTF 329
                                                                                                                                                                                                                                                                                                   2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          N-PSDB; ADT99511.
                                                                                                                                                                                       Sequence 378 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US2004213807-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Parapox ovis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            13-JAN-2005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        28-OCT-2004.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADT99512;
                                                                                                                                                                                                                                                                                                                                                                                              RESULT 149
                                                                                                                                                                                                                                              Best Loc
Matches
88888888888888
                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                        유
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The present invention provides a method for enhancing a subject's immune response to an administered antigen and/or an active component of a vaccine by administering an amount of a BZL viral envelope protein and an immunostimulatory protein PP30 of a Parapox virus. The method and composition of the invention is useful for enhancing an immune response to an antigen such as a tumour antigen. The invention is useful as an adjuvant for vaccine for preventing and/or treating flu, tuberculosis, respiratory syncytial virus, anthrax and human immunodeficiency virus (HIV). The invention is also useful in the preparation of vaccine. The present sequence is Parapox ovis BZL viral envelope protein.
                                                                                                                                                                                                                                                                                  Immune response; B2L; viral envelope protein; immunostimulatory protein; PP30; tumour antigen; flu; tuberculosis; respiratory syncytial virus; anthrax; vaccine; immunostimulant; virucide; antitubercular; tuberculostatic; anti-HIV.
                                  Gabs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Enhancing an immune response to an antigen comprises administering a
                                 ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
 DB 8; Length 378; 6.5e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         55.6%; Score 5; DB 8; Length 378; 100.0%; Pred. No. 6.5e+02; ative 0; Mismatches 0; Indels
                               Indels
                                                                                                                                                                                                                                                            Parapox ovis strain D1701 B2L viral envelope protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Parapox B2L protein and an antigen to the mammal
55.6%; Score 5; DB 8
100.0%; Pred. No. 6.5
:ive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                             /note= "Encoded by GTG"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Disclosure; SEQ ID NO 4; 10pp; English.
                                                                                                                                                                                                                                                                                                                                                                                               Location/Qualifiers
                                                                                                                                                                     ADT99514 standard; protein; 378 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                07-DEC-2001; 2001US-0336694P.
15-APR-2002; 2002US-00123058.
06-DEC-2002; 2002WO-US038971.
15-APR-2003; 2003US-00414609.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     28-MAY-2004; 2004US-00857546
                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity 100...
S; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ξ,
                                 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mcguire
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (JOHN/) JOHNSTON S A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (MCGU/) MCGUIRE M J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2004-765577/75.
            Best Local Similarity
Matches 5; Conserv
                                                                                     325 VDDTF 329
                                                             9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 2004-765577/
N-PSDB; ADT99513.
                                                                                                                                                                                                                                                                                                                                                                                                Key
Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 378 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           US2004213807-A1
                                                             2 VDDTF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Johnston SA,
                                                                                                                                                                                                                                                                                                                                                                    Parapox ovis.
                                                                                                                                                                                                                                13-JAN-2005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         28-OCT-2004.
                                                                                                                                                                                                  ADT99514;
   Query Match
                                                                                                                                       RESULT 150
                                                                                                                                                    ADT9951
                                                                                                                                                                                   셤
                                                               ઠ
```

.

2 VDDTF 6 |||||| 325 VDDTF 329

ઠે

셤

Search completed: May 17, 2006, 06:20:35 Job time : 279 secs

This Page Blank (uspto)

heat resistant agg endonuclease G (EC vetispixadiene syn nrohhle transcrin	uncharacterized ph hypothetical prote	glycerate dehydrog glycerate dehydrog NSP3 protein - hum probable requiator	probable transcrip probable transcrip	hypothetical prote	nuclease Noll (EC hypothetical prote probable membrane	hypothetical prote hypothetical prote	hypothetical 37.6K vetispiradiene syn	glucose-1-phosphat nonstructure prote	adenine glycosylas tryptophan synthas	Liyptophan Bynthas acid phosphatase (acid phosphatase (hypothetical prote	phosphate permease phosphate permease	acyl-CoA dehydroge hypothetical 51.6k	UDP-N-acetylmuramo	UDF-N-acecylmuramo glycosyltransferas hymothetical prote	probable ammonium	acid phospharase (hypothetical prote	hypothetical prote starch synthase (E	hypothetical prote ammonium transport	hypothe	nypornetical proce phytoene dehydroge	phytoene dehydroge vetispiradiene svn	phytoene dehydroge	ABC transporter, p	probable membrane	exeA protein - Aer	hypothetical prote 5-epi-aristolochen	glycogen synthase	DNA-directed DNA p 68K ankyrin-like p	B17R protein - vac	B19R protein - vac B19R protein - var	hypothetical prote DAR protein - vari	DNA-directed DNA p	3-dehydroguinate d	sine	m m ;	proteinase II (imp
2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	311 2	55.6 313 2 AD1285 55.6 313 2 AG1656 55.6 313 2 S51729 55.6 315 2 AG0503	316 1	317 2	330 2	331 2	331 2	358 2	372 2 399 2 406 2	412 2	422 2	4 4 4 2 6 2 9 2 9 2 9 2 9 2 9 2 9 9 9 9 9 9 9	435 2	452 2	4.4.4.4.6.5.0	475 2	483 2	483 2	492 2	506 2	518 2	518 520 2	524 2	535 2	540 2	547 2	548 2 550 2	. 566 2	574 2	574 2	574 2	574 2 574 2	575 1	579 2 617 2	628	683 2 ACU74 683 2 AB021	686 2
		36 33 39 39 39 50 50 50																																	66		02
5.1.8 Biocceleration Ltd.		arch time 24.5 Seconds (without alignments) 35.345 Million cell updates/sec						ers: 283235						cted by chance to have a	the result being prediction.				ı mi	DBL protein - vari hypothetical prote	B14L protein - var	nypornerical proce transforming prote	tryptophan synthas prohahle tryptopha	alpha-amylase (EC	hypothetical prote hypothetical prote	hypothetical prote	ilyporinelical proce endonuclease precu	hypothetical prote	hypothetical prote	phospholipase A2 (cellular retinoic	shkl kinase-bindin ubiquitin / riboso		dolichyl-phosphate flagellar hook pro	hypothetical prote	z-phosphonoacecala trNA (quanine-N1)-	hypothetical prote
GenCore version 5. Copyright (c) 1993 - 2006 Bi	protein search, using sw model	May 17, 2006, 06:24:29 ; Search (with	œ	1 KVDDTFYYV 9	OLIGO Gapop 60.0 , Gapext 60.0	283416 seqs, 96216763 residues	1	hits satisfying chosen paramet	length: 0 length: 200000000	Listir	PIR_80:	1: pir1:* 2: pir2:*	: pir3 : pir4	e number of	er than or equal ved by analysis	SUMMARIES		Match Length DB ID	150	0 150 2 0 150 2	150 2	206 2	7 400 2 7 400 2	482 2	535 2	7 1256 2	72 2	118 2	128 2	134 2	139 2	5 140 2 5 156 1	156 2	263 2	264 2	55.6 279 2 H75326	7 84 7
	OM protein - pro	Run on:	itle: erfect score:	Sequence:	Scoring table:	Searched:	Word size :	Total number of	Minimum DB seq 1 Maximum DB seq 1		Database :			Pred. No.	a, ~		Regult	Score	6	თ თ	יסינ	. 19	ω ω	ω·	o io	yo yo	, ru	u u	ı vo ı	տ տ	ı no u	ი თ	LO L	nω	ın u	, 25 25 25 25 25 25 25 25 25 25 25 25 25 2	n

hypothetical prote hypothetical prote hypothetical prote hypothetical prote transcription init hypothetical prote shiga-like toxin I HIQA-A30 variant ex hypothetical prote	Shiga-like toxin I Shiga-like toxin c Shigala toxin cha Shiga toxin 2 subu Shiga toxin 2 subu Shiga toxin 1 subu Shiga toxin 1 subu Shiga toxin 1 subu Shiga-like toxin I Shiga-like toxin I Shiga-like toxin I Shiga-like toxin I Chiga-like toxin I Chiga-like toxin I Tretrovirus-related hypothetical prote hypothetical prote hypothetical prote hypothetical prote	hypothetical prote hypothetical prote ferredoxin Cj0333c C4-dicarboxylate t hypothetical prote hypothetical prote lypothetical prote probable alpha hel probable alpha hel hypothetical prote nonhistone chromos hypothetical prote hypothetical prote hypothetical prote hypothetical prote	hypothetical prote hypothetical prote conserved hypothetical prote conserved hypothetical prote probable nitrogen thioredoxin H BH3 thioredoxin - Stree hypothetical prote hypothetical cal prote hypothetical cal cytos nitrogen regulator hypothetical cytos nitrogen regulator hypothetical prote
4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	44.4 101 2 B97800 44.4 103 2 AH2437 44.4 103 2 H89764 44.4 104 2 H89764 44.4 104 2 H8923 44.4 105 2 B84056 44.4 107 2 B83307 44.4 107 2 B83307 44.4 107 2 B83307 44.4 107 2 B8925 44.4 107 2 B8925 44.4 107 2 B8925 44.4 107 2 B89304 44.4 107 2 B89304 44.4 110 2 C85063 44.4 112 2 S59911 44.4 113 2 G8931 44.4 113 2 G8930 44.4 113 2 G8930
			1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
proteinase II (imp GGDEF family prote hypothetical prote hypothetical prote ribosomal protein ribosomal protein ribosomal protein outer membrane pro ribosomal protein hypothetical prote protein Y65D3A.6b	hypothetical prote suppressor protein hypothetical protein C50C3.3 protein probable insulinas conserved hypothet mating-type switch protein TayC4.4 [i RND multidrug effl hypothetical prote transcription-repa GAF domain protein pslA protein plant protein hypothetical 149.2 probable membrane protein kinase cek	hypothetical prote T2211.2 protein - hypothetical prote hypothetical prote peptide synthetase hypothetical prote polyprotein - infe hypothetical prote probable peptide s lectin chain B - I hypothetical prote cell surface glyco s-layer protein - hypothetical prote lebetin 2 isoform hypothetical prote	phospholipase A2 h hypothetical prote alpha-amylase (EC hypothetical prote plasmin-sensitive probable transcrip hypothetical prote conserved hypothet archaeal histone A conserved hypothet archaeal histone A conserved hypothet archaeal histone A conserved hypothet archaeal histone hypothetical prote acyl carrier prote hypothetical prote acyl carrier prote hypothetical prote hypothetical prote hypothetical prote hypothetical prote hypothetical prote
55.6 686 2 55.6 696 2 55.6 696 2 55.6 704 1 55.6 735 2 55.6 735 2 55.6 735 2 55.6 735 2 55.6 735 2 55.6 735 2 55.6 752 1 55.6 778 2	55.6 55.6 55.6 55.6 55.6 55.6 55.6 57.0	55.6 11361 2 55.6 11552 2 55.6 1679 2 55.6 1679 2 55.6 2025 2 55.6 2025 2 55.6 3085 2 55.6 3087 2 55.6 10797 2 44.4 337 2 44.4 4 337 2 44.4 4 337 2 44.4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	4 44.4. 53 2 B60718 4 44.4. 53 2 B60718 4 44.4.4. 58 2 S048236 4 44.4.4. 58 2 S04873 4 44.4.4.6.1.2.7.98014 4 44.4.4.6.2.2.2.2.3091 4 44.4.4.6.5.2.2.3091 4 44.4.4.6.5.2.2.3099 4 44.4.4.6.7.2.153485 4 44.4.4.6.7.2.7.44097 4 44.4.4.6.7.2.7.44097 4 44.4.4.6.7.2.7.44097 4 44.4.4.6.7.2.7.2.7.2.7.4292 4 44.4.4.6.7.2.7.2.7.4292 4 44.4.4.7.2.7.2.7.2.7.2.7.4292 4 44.4.4.7.6.2.7.2.7.2.7.4292 4 44.4.4.8.1.2.7.2.7.424 4 44.4.4.8.1.2.7.2.49920 4 44.4.4.8.1.2.7.2.49920
103 104 106 106 107 109 110 111 113	1114 1116 1117 1118 1120 1121 1124 1127 1127 129	11111111111111111111111111111111111111	4 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

6R protein - vario hypothetical prote hypothetical prote hypothetical prote hemoglobin I, extr hypothetical prote nucleoside-diphosp troponin I beta - troponin I alpha - hypothetical prote conserved hypothet hypothetical prote hypothetical prote hypothetical prote hypothetical prote	nypothetical prote conserved hypothetical prote hypothetical prote Ig heavy chain var ASR protein - var zona pellucida bin flavodoxin [import T-cell surface gly hypothetical prote hypothetical prote hypothetical prote arly glycoprotein probable flavodoxi probable phage tai hypothetical prote globable phage tai hypothetical prote globable mage tai hypothetical prote transcription regulation in the probable phage tai hypothetical prote transcription regulation in the prote hypothetical prote probable phage tai hypothetical prote	hypothetical prote iron-sulfur cofact early glycoprotein hypothetical prote galactoside O-acet protein KO4F1.8 [i hypothetical prote probable ubiquitin ubiquitin / ribosoma ubiquitin extensio ubiquitin extensio ubiquitin extensio ubiquitin extensio ubiquitin extensio ubiquitin extensio hypothetical prote hypothetical grote hypothetical prote probable flagellar hypothetical prote
4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	* * * * * * * * * * * * * * * * * * * *
3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
hypothetical prote Ig heavy chain vD hypothetical prote hypothetical prote probable erpK prot flagellar transcri reductase/isomeras abscisic acid-indu lysozyme (EC 3.2.1 uncharacterized pr conserved hypothet hypothetical prote	interphotoreceptor RNA polymerase II hypothetical protein hypothetical protein hypothetical protein hypothetical protein hypothetical protein hypothetical protein flagellar protein inter-alpha-trypsi hypothetical protein	protection of the protection o
4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	4 44.4 127 2 B86158 4 44.4 127 2 AG1024 4 44.4 128 2 S58156 4 44.4 129 2 G8225 4 44.4 130 2 H97605 4 44.4 130 2 H97605 4 44.4 130 2 H2920 4 44.4 130 2 T22920 4 44.4 130 2 T22920 4 44.4 130 2 T22920 4 44.4 132 1 C4159 4 44.4 132 1 R3H712 4 44.4 132 2 B6984 4 44.4 132 2 G9599 4 44.4 135 2 G9699 4 44.4 136 2 G95291 4 44.4 137 2 H95190 4 44.4 138 2 T12631 4 44.4 138 2 T12631
		28846887

polypeptide deform SSXI protein - hum SSXI protein - hum SSXI protein - hum SSXI protein - hum special protein probable 16S rRNA peptidyl-tRNA hydraminoacyl-tRNA hydraminoacyl-tRNA hydraminoacyl-tRNA hydraminoacyl-tRNA hydraminoacyl-tRNA hydraminoacyl-tRNA hydraminoacyl-tRNA hydraminoacyl-tRNA hydrothetical protein protein bypothetical protein prophage ps2 protein prophage ps2 protein pr	ACMANY OFTILD - BO hypothetical prote tho GDP dissociati hypothetical prote homoserine kinase flagellar filament GTP-binding protei HLA-CW1 - human (f HLA-CW1 - huma
444.44 44	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4
4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	518 519 520 521 523 524 523 533 533 533 533 533 533 533 533 533
transcription fact IK factor - human hemagglutinin 2 ch hypothetical prote petP protein [impo transcription regu histocompatibility histocompatibility histocompatibility histocompatibility histocompatibility histocompatibility histocompatibility histocompatibility histocompatibility for protein homol IgB-dependent hist hypothetical prote home dl synthesis hypothetical prote hypothetical prote hypothetical prote transcription regu conserved hypothet dual specificity p probable dual spec Junction crossover junction crossover junction resistence prote hypothetical prote probable recx prote hypothetical prote probable calmoduli resistence protein conserved hypothet hypothetical prote probable calmoduli resistence protein conserved hypothet hypothetical prote probable acalmoduli resistence protein conserved hypothet hypothetical prote probable acalmoduli resistence protein conserved hypothet hypothetical prote probable acalmoduli	hypothetical prote hypothetical prote MHC cell surface a MHC cell surface glectin beta-1 chailectin beta-2 chaile hypothetical prote hypothetical prote hypothetical prote hypothetical prote hypothetical prote hypothetical prote probable secreted, hypothetical prote secreted protein, sarcosine oxidase sarcosine oxidase hypothetical prote SPP2 protein - yea DNA-3-methyladenin NADH2 dehydrogenas conserved hypothet prote probable transcrip probable transcrip
.	44444444444444444444444444444444444444
MWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWW	, 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4

hypothetical prote hypothetical prote adenylate kinase (plastoquinol-plast plastoquinol-plast cobalamin biosynth hypothetical prote phage shock protei phage shock protei hypothetical prote dolichyl-phosphate phage shock protei	phage shock protein hemagalutinin HA2 hypothetical protein for the protein protein for the probable drought. The probable two-compourface glycoprotein hypothetical protein protei	aurface glycoprote surface glycoprote surface glycoprote tRNA guanine-N1) - probable class II hypothetical prote transcription reguptobable transcription nonstructural prote nonstructural prote hypothetical prote bradyzoite-specifi hypothetical prote bradyzoite-specifi hypothetical prote hypothetical prote bradyzoite-specifi hypothetical prote bradyzoite-specifi hypothetical prote hypothetical prote bradyzoite-specifi hypothetical prote bradyzoite-specifi hypothetical prote	hypothetical proce hypothetical proce plastoquinol-plast tRNA (quanine-nl)- tRNA-(quanine-nl)- tRNA-(quanine-nl)- tRNA-(quanine-nl)- tRNA-(quanine-nl)- tRNA-(quanine-nl)- menaquinone regulator lectin precursor - menaquinone biosyn 30S ribosomal prot bNA binding protei hypothetical prote plastoquinol-plast tRNA (quanine-Nl-) 3-deoxy-manno-octu transcription fact hypothetical prote plastoquinol-plast tRNA (quanine-Nl-) 3-deoxy-manno-octu transcription fact hypothetical prote
4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	4 44.4 222 2 C64879 4 44.4 223 2 PQ0514 4 44.4 223 2 PQ0514 4 44.4 223 2 PQ0514 4 44.4 223 2 PQ0511 4 44.4 224 2 H726571 4 44.4 224 2 H72657 4 44.4 225 2 P9749 4 44.4 225 2 P9749 4 44.4 225 2 P9749 4 44.4 225 2 P9789 4 44.4 226 2 PP789 4 44.4 226 2 PP7899 4 44.4 226 2 PP7899	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	
614 616 616 617 619 620 621 623 623 624 625	6622 6622 6633 6633 6633 6633 6633 6633	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	668 668 672 672 673 673 675 676 681 682 683 683 685
hypothetical prote hypothetical prote hypothetical prote hypothetical prote uncharacterized pr probable ATP bindi conserved hypothet hypothetical prote hypothetical prote hypothetical prote hypothetical prote hypothetical prote hypothetical prote hypothetical prote hypothetical conte	ydrogena (ca) initi hypothe brane pr hypothe brane pr nol-plas nol-plas nol-plas nol-plas nol-plas nol-plas nol-plas nol-plas nol-plas	plastoquinol plast chloramphenicol 0-chloramphenicol 0-chloramphenicol 0-chloramphenicol 0-chloramphenicol 0-chloramphenicol 0-chloramphenicol 0-chloramphenicol probable membrane conserved hypothetical protein peptide methionine graphide protein ribosomal protein peptide methionine graphide graphiding protein ransfer complex phypothetical protein protein transfer complex phypothetical protein probable mutifical protein protei	nduces I Hill I Hill Cal p Cal p I tran Cal p I tran I tra
4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	4 44 4 213 2 744818 4 44.4 213 2 A26130 4 44.4 213 2 A26130 4 44.4 213 2 B87424 4 44.4 215 1 CBKL6F 4 44.4 215 1 CBKL6F 4 44.4 215 1 CBKR6F 4 44.4 215 1 CBKR6 4 44.4 215 1 CBR76 4 44.4 215 1 S21253 4 44.4 215 1 S31253 4 44.4 215 2 S73262 4 44.4 215 2 S73262 4 44.4 215 2 T07266 4 44.4 215 2 T07266 4 44.4 215 2 T07266 4 44.4 215 2 T07266 4 44.4 215 2 T07266	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	554 554 554 557 557 557 557 557 557 557	576 577 580 580 581 584 586 590 590 590	594 595 596 598 599 601 601 603 608 609 611 611

B. subtilis YjcH p probable transposa hypothetical prote hypothetical prote hypothetical prote tryptophan synthas hypothetical prote probable acid phos pectin esterase ho hypothetical prote probable lacid prote probable lacid prote	hypothetical prote conserved hypothet tRNA methyltransfe probable translaticall division inhitranscription antitoxin sensitivity uridine phosphoryl	conserved hypothet hypothetical prote MHC HLA-A304S heav hypothetical prote phosphonoacetaldeh transcription regu NADH2 dehydrogenas hypothetical prote hypothetical prote hypothetical prote proteasome endopep T1 protein - rabbi Sec-independent pr uridine phosphoryl	bisphosphoglycerat NADH2 dehydrogenas uridine phosphoryl dihydroorotate deh conserved hypothet hypothetical prote calcium-binding pr NADH2 dehydrogenas Carbonate dehydrogenas	stage o sporulation hypothetical prote hypothetical prote probable glycosyl hypothetical prote glycosyl transfera NADH2 dehydrogenas NADH2 dehydrogenas calcium-binding proteium-binding proteium-binding proteium-binding proteium-binding proteium-binding protein-binding proteium-binding protein-bypothetical prote hypothetical prote hypothetical prote hypothetical prote hypothetical prote
24 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	4 44.4 260 2 H97357 4 44.4 260 2 A70329 4 44.4 260 2 G75301 4 44.4 260 2 H28182 4 44.4 260 2 H28182 4 44.4 260 2 H2829 4 44.4 260 2 H2398 4 44.4 261 1 A34355 4 44.4 261 1 KLRTB 4 44.4 261 1 KLRTB 4 44.4 261 1 KLRTB 4 44.4 263 2 H85376 4 44.4 263 2 H85376 4 44.4 263 2 H85376 4 44.4 263 2 H85376 4 44.4 265 2 T440259 4 44.4 265 2 T40259
760 761 762 763 764 765 767 769	771 771 772 777 775 776 781 782 783	785 786 789 790 792 793 795 796 796 799	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	816 818 819 820 821 828 828 831 831
hypothetical prote conserved hypothet hypothetical prote hypothetical prote hypothetical prote potassium channel purine nucleoside ethylene-responsiv probable RNA polym probable oxidoredu formin-binding pro	hypothetical prote heme oxygenase [im ribosomal protein hypothetical prote serine proteinase probable transcrip probable 2-compone uncharacterized co hypothetical prote		envelope profesin - hypothetical prote autclysin, N-acety autclysin, N-acety autclysin, N-acety envelope protein - hypothetical prote MHC H-2KL-k - mous hypothetical prote conserved hypothet conserved hypothet hypothetical prote cyanamide hydratas hypothetical prote 2-heptaprenyl-1,4- hypothetical prote L-hypothetical prote 2-heptaprenyl-1,4- hypothetical prote tXR methyltransfe tXR methyltransfe	hypothetical 27.4K hypothetical prote hypothetical prote carbonare dehydrat hypothetical prote hypothetical prote hypothetical prote rosponse regulator cosh nickel-insert stationary-phase s SurE protein NMA16 hypothetical prote Hypothetical protein
4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	4 44.4 246 2 847805 4 44.4 246 2 847805 4 44.4 246 2 125532 4 44.4 247 2 A57112 4 44.4 247 2 A73188 4 44.4 247 2 T33288 4 44.4 248 2 D69460 4 44.4 248 2 D69460 4 44.4 248 2 B1077 4 44.4 248 2 S75632 4 44.4 248 2 A96213 4 44.4 248 2 A96213 4 44.4 248 2 A93073 4 44.4 248 2 A93073
6 6 8 8 8 8 9 8 8 9 9 8 8 9 9 9 9 9 9 9	6 9 9 8 7 7 0 0 0 9 9 8 7 7 0 0 5 7 7 0 9 7 1 0 9	7112 7114 7116 7119 722 722 723	7,77,77,77,77,77,77,77,77,77,77,77,77,7	64444440000000000000000000000000000000

probable integral protein containing hypothetical prote probable transposa hypothetical prote pyridoxal/pyridoxi pyridoxal/pyridoxi pyridoxal/pyridoxi pyridoxal kinase (hypothetical prote nodo protein Rhi	nodule formation phypothetical prote short chain dehydr hypothetical prote transaldolase - De hypothetical prote homologhosmin NO38 coat protein homologhosmin NO38 coat protein homologhosmin hypothetical protein hypothetical hypothetical protein hypothetical hypothetical protein hypothetical hypothetical protein hypothetical	phage_related lyti hypothetical prote conserved hypothet class I histocompa hypothetical prote modulation of Chea glycosyl transfera 6-phosphogluconate osteoinductive fac osteoinductive fac osteoinductive fac osteoinductive fac ninor tail protein hypothetical prote ABC transporter, m rbsK protein (ANO ribokinase (import arginase (import arginase (import issue factor path osteoinductive fac
444444444444444444444444444444444444444		444444444444444444444444444444444444444
य य य य य य य य य य य		च च चं चं च चं चं चं चं चं चं चं चं चं च
embryonic abundant hypotherical prote hypotherical prote endoxyloglucan tra probable periplasm ribosomal protein xyloglucan ende-1, MG374 homolog G12 phosphonoacetalden conserved hypothet hypotherical prote	MHC class I history hydrolase (esteras probable enoyl-coa hydrolase (esteras probable enoyl-coa hypothetical prote hypothetical prote conserved hypothet conserved hypothet conserved hypothet conserved hypothet conserved hypothet conserved hypothet dipeptide ABC tran conserved hypothet dipeptide ABC tran conserved hypothet MHC class I histoc MHC hid-B39 chain mHC Hid-B39 chain mHC Hid-B39 chain sporulation dipept ammonia monooxygen hypothetical prote class I histocompa lectin precursor - hypothetical prote class I histocompa lectin precursor - hypothetical prote conserved hypothet class I histocompa lectin precursor - hypothetical prote conserved hypothet trank guanine-Ni) - protessome endopep	
4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4		4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4
8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8844 8845 8845 8846 8847 8886 8860 8860 8860 8860 8860 8860 886	88 88 88 88 88 88 88 88 88 88 88 88 88

```
A;Cross-references: UNIPROT:P33860; UNIPARC:UPI0000000732; GB:X69198; NID:g456758; PIDN:
C;Superfamily: host range protein, vaccinia C7L type
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       C;Species: variola major virus
C;Date: 22-Oct-1999 #sequence_revision 22-Oct-1999 #text_change 09-Jul-2004
C;Date: 22-Oct-1999 #sequence_revision 22-Oct-1999 #text_change 09-Jul-2004
C;Accession: T28446
R;Massung, R.F.; Esposito, J.J.; Liu, L.I.; Qi, J.; Utterback, T.R.; Knight, J.C.; Aubin
Nature 366, 746-751, 1993
A;Title: Potential virulence determinants in terminal regions of variola smallpox virus
A;Reference number: 2204488; MUID:94088747; PMID:8264798
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A,Residues: 1-150 <MAS>
A,Residues: 1-150 <MAS>
A,Cross-references: UNIPROT: P33860, UNIPARC: UP1000000732; EMBL: L22579; NID: g623595; PID
A,Experimental source: strain "Bangladesh-1975
C,Superfamily: host range protein, vaccinia C7L type
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Rishchelkunov, S.N.; Totmenin, A.V.; Gutorov, V.V.; Safronov, P.F.; Massung, R.F.; Lopar Elbminted to GenBank, March 1998
A.Description: Analysis of the complete coding sequence of DNA of alastrim variola minor A.Reference number: A72150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Status: preliminary |
A;Wolecule type: DNA
A;Residues: 1-150 < SHC> |
A;Cross-references: UNIPROT: P33860; UNIPARC: UPI0000000732; GB:Y16780; NID:95830555; PIDN
A;Experimental source: strain Garcia-1966
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                               C;Species: variola virus
C;Date: 30-Sep-1993 #sequence_revision 30-Sep-1993 #text_change 09-Jul-2004
C;Accession: H36837
R;Blinov, V.M.
submitted to GenBank, November 1992
A;Reference number: A36859
A;Accession: H36837
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             C:Species: variola minor virus
C:Date: 24-Nov-1999 #sequence_revision 24-Nov-1999 #text_change 09-Jul-2004
C;Accession: F72151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 150;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 150;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; Score 9; DB 2; Length 150; Pred. No. 0.002; 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 100.0%; Score 9; DB 2; Length 150
| 100.0%; Pred. No. 0.002;
ative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                B14L protein - variola minor virus (strain Garcia-1966)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  - variola major virus
                                                                                                                                                                                                              D8L protein - variola virus (strain India-1967)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity | 100.0%;
Matches 9; Conservative 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity 10v...
Best Local 9; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              hypothetical protein D11L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 KVDDTFYYV 9
                KVDDTFYYV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Molecule type: DNA
A; Residues: 1-150 <BLI>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 KVDDTFYYV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Accession: F72151
                74
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      C;Genetics:
A;Gene: B14L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 4
            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Cispecies: vaccinia virus
A; Variety: strain Ankara
Cispecies: vaccinia virus
A; Variety: strain Ankara
Cipate: 31-Mar-1990 #sequence_revision 31-Mar-1990 #text_change 09-Jul-2004
CjAccession: A3348; G42503; T30771
R; Kotwal, G.J.; Moss, B.
R; Kotwal, G.J.; Moss, G.J.; Mo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Reference number: A33172
A;Recession: G42503
A;Accession: G42503
A;Accession: G42503
A;Accession: G42503
A;Accession: G42503
A;Accession: G42503
A;Accession: G5, Scheiflinger, F; Falkner, F.G.; Dorner, F.
A;Experimental source: strain Copenhagen
B;Antoine, G5, Scheiflinger, F; Falkner, F.G.; Dorner, F.
A;Bezerimental source: strain Gpenhagen
B;Antoine, G5, Scheiflinger, F; Falkner, F.G.; Dorner, F.
A;Bezerimental source: strain Gpenhagen
A;Recession: T3071
A;Accession: T3071
A;Acce
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                      phosphoprotein pho
hypothetical 21K p
hypothetical prote
hypothetical prote
                                                                                                                                                                                                                                                                                                                                                                       hypothetical prote
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    probable metallopr
purine nucleoside
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   hypothetical prote
conserved hypothet
                                                                                                                                deoxyhypusine synt
                                                                                                                                                                     hypothetical prote
                                                                                                                                                                                                                                                                                                                                                                                                                                                      interphotoreceptor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       hypothetical prote
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      conserved hypothet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   prote
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     hypothetical prote
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 hypothetical prote
FAD synthetase - v
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       synthetase - y
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     vaccinia virus 18K HindIII-C protein - vaccinia virus (strain Ankara and WR)
N,Alternate names: C7L protein; host range protein
                                                                                                                                                                                                                                                                                                                                                                                                        laminin B1 chain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           hypothetical
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100.0%; Score 9; DB 1; Length 150; 100.0%; Pred. No. 0.002; cive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Superfamily: host range protein, vaccinia C7L type Keywords: early protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ALIGNMENTS
                                                                                                                                                                                                                                                                                                                          A71709
T21843
                                                                                                                                                                                                                                                                                                                                                                                                                                              A49185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DS9100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A86842
                                                                                                                                                                                                                                               B35961
                                                                                                                                                                                                                                                                                                                                                                                                        845067
                                                                                                                                                                 124651
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity 100.
Matches 9; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 KVDDTFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Note: MVA018L
C;Superfamily: h
C;Keywords: earl
```

```
tryptophan synthase, beta chain NMB0699 [imported] - Neisseria meningitidis (strain MCS CSpecies Neisseria meningitidis
C;Date: 31-Mar-2000 #sequence_revision 31-Mar-2000 #text_change 09-Jul-2004
C;Accession: B81169
Hickey, E.K.; Haft, D.H.; Salzberg, S.L.; White, O.; Fleischmann, R.D.; Dougherty, B.A.
Ti, H.; Qin, H.; Vamathevan, J.; Gill, J.; Scarlato, V.; Masignani, V.; Pizza, M.
A;Authors: Grandi, G.; Sun, L.; Smith, H.O.; Fraser, C.M.; Moxon, E.R.; Rappuoli, R.; V.
A;Title: Complete genome sequence of Neisseria meningitidis serogroup B strain MCS8.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A,Status: preliminary
A,Modecule type: DNA
A,Residues: 1-400 «TET»
A,Cross-references: UNIPROT:Q9KOB5; UNIPARC:UPI000013751E; GB:AE002424; GB:AE002098; NI
A,Experimental source: serogroup B, strain MC58
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                probable tryptophan synthase (EC 4.2.1.20) beta chain NMA0904 [imported] - Neisseria menorispecies: Neisseria meningitidis
C;Species: Neisseria meningitidis
C;Bate: 05-May-2000 #sequence_revision 05-May-2000 #text_change 09-Jul-2004
A;Accession: H81936
B;Parkhill, J; Achtman, M; James, K.D.; Bentley, S.D.; Churcher, C.; Klee, S.R.; More; Holroyd, S.; Jagels, K.; Leather, S.; Moule, S.; Mungall, K.; Quail, M.A.; Rajandream Nature 404, 502-506, 2000
A;Title: Complete DNA sequence of a serogroup A strain of Neisseria menigitidis 22491.
A;Reference number: A81775; MUID:20222556; PMID:10761919
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A,Status: preliminary
A,Molecule:type: DNA
A,Residues: 1-400 <PAR>
A,Cross-treferences: UNIPROT:Q9JVCO; UNIPARC:UPI000013751D; GB:AL162754; GB:AL157959; NIC
A,Experimental source: serogroup A, strain Z2491
C,Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RiHofemeister, B.; Koenig, S.; Hoang, V.; Engel, J.; Mayer, G.; Heese, O.; Hansen, G.; I submitted to the EMBL Data Library, December 1992
A;Description: The game amyTV coding for a non-glucogenic alpha-amylase from Thermoactin A;Reference number: $31478
A;Accession: $31478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C;Genetics:
A;Gene: NMB0699
C;Superfamily: tryptophan synthase beta chain; tryptophan synthase beta chain homology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A,Gene: trpB; NWA0904
C;Superfamily: tryptophan synthase beta chain; tryptophan synthase beta chain homology
C;Keywords: carbon-oxygen lyase; hydro-lyase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C,Species: Thermoactinomyces vulgaris
C,Date: 22-Nov-1993 #sequence_revision 10-Nov-1995 #text_change 31-Dec-2004
C,Accession: S31478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 400;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 400;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          alpha-amylase (EC 3.2.1.1) - Thermoactinomyces vulgaris
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           66.7%; Score 6; DB 2;
100.0%; Pred. No. 10;
tive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 / Match 66.7%; Score 6; DB 2 Local Similarity 100.0%; Pred. No. 10; les 6; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  186 VDDTFY 191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        186 VDDTFY 191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2 VDDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2 VDDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Accession: B81169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Cyaccession: C3658
R;Casale, W.L.; McConnell, D.G.; Wang, S.Y.; Lee, Y.J.; Linz, J.E.
Mol. 10, 6654-6663, 1990
A;Title: Expression of a gene family in the dimorphic fungus Mucor racemosus which exhib A;Reference number: A36365; MulD:91061774; PMID:1701021
A;Residues: 1-206 <CAS>
A;Residues: 1-206 <CAS
A;Residues: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           C;Accession: $75542
R;Kaneko, T.; Sato, S.; Kotani, H.; Tanaka, A.; Asamizu, E.; Nakamura, Y.; Miyajima, N.; O, K.; Okumura, S.; Shimpo, S.; Takeuchi, C.; Wada, T.; Watanabe, A.; Yamada, M.; Yasuda DNA Res. 3, 109-136, 1996
A;Title: Sequence analysis of the genome of the unicellular cyanobacterium Synechocystis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Residues: 1-770 <KAN>
A;Cross-references: UNIPROT:P73845; UNIPARC:UPI00000C0DBC; EMBL:D90910; GB:AB001339; NID
A;Note: the nucleotide sequence was submitted to the EMBL Data Library, June 1996
                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                hypothetical protein all1608 - Synechocystis sp. (strain PCC 6803)
C;Species: Synechocystis sp.
A;Variety: PCC 6803
C;Date: 25-Apr-1997 #sequence_revision 25-Apr-1997 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Species: Rhizomucor racemosus
Date: 28-Mar-1991 #sequence_revision 28-Mar-1991 #text_change 09-Jul-2004
                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                             Length 150;
                                      Score 9; DB 2; Length 150 Pred, No. 0.002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 770;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           66.7%; Score 6; DB 2; Length 206; 100.0%; Pred. No. 6.2; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 transforming protein homolog MRAS3 - Rhizomucor racemosus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Reference number: S74322; MUID: 97061201; PMID: 8905231
C;Superfamily: host range protein, vaccinia C7L type
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 77.8%; Score 7; DB 2; Best Local Similarity 100.0%; Pred. No. 1.3; Matches 7; Conservative 0; Mismatches
                                                                     Query Match
100.0%; Score 9; DB 3
Best Local Similarity 100.0%; Pred. No. 0.00
Matches 9; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity 100.
Matches 6; Conservative
                                                                                                                                                                                                                                                                   74 KVDDTFYYV 82
                                                                                                                                                                                                                        1 KVDDTFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ||||||||
286 VDDTFYY 292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2 VDDTFYY 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                160 VDDTFY 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2 VDDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Accession: S75042
A;Status: preliminary
A;Molecule type: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT
                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
```

us-10-764-985-2.oli.rpr

ö

Gaps

요 ઠ

```
A;Reaiduea: 1-1256 <WIL>
A;Cross-references: UNIPROT:Q9XVH4; UNIPARC:UPI0000081416; EMBL:Z81136; PIDN:CAB03458.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-1286 <NHA>
A;Cross.references: UNIPROT:Q21025; UNIPARC:UPI000008155B; EMBL:U41994; NID:g1123047; PI
                                                                                                                                                                                                                                                                                                                                                                                hypothetical protein W02B8.2 - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   endonuclease precursor - human
C;Species: Homo sapiens (man)
C;Date: 23-Aug-1995 #sequence_revision 19-Oct-1995 #text_change 19-Oct-1995
C;Accession: SG: Houmiel, K.L.; Low, R.L.
R;Gerschenson, M.; Houmiel, K.L.; Low, R.L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    hypothetical protein F59A6.5 - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;bacies: 20.Sep-1999 #sequence_revision 20-Sep-1999 #text_change 09-Jul-2004
C;Accession: T16507
R;Nhan, M.
                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 1256;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 1286;
                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       submitted to the EMBL Data Library, December 1995
A;Description: The sequence of C. elegans cosmid F59A6.
A;Reference number: Z18526
A;Accession: T16507
                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Status: preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                66.7%; Score 6; DB 2;
100.0%; Pred. No. 25;
iive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 66.7%; Score 6; DB 2;
100.0%; Pred. No. 25;
iive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  submitted to the EMBL Data Library, October 1996
A;Reference number: 220151
A;Accession: T26101
                      100.0%; Pred. No. 13; tive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Map position: 2
A;Introns: 27/3; 327/3; 670/3; 949/3; 1073/3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Gene: CESP: F59A6.5
A;Introns: 35/3; 335/3; 685/3; 973/3; 1097/3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Experimental source: clone W02B8
                                                            6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity 100.
Matches 6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity 100.
Matches 6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ||||||
|DTFYYV 1101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DTFYYV 1125
                                                                                                                                                                              374 DTFYYV 379
               Best Local Similarity
Matches 6; Conserv
                                                                                                                             4 DTFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Gene: CESP: W02B8.2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4 DTFYYV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4 DTFYYV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Molecule type: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C; Accession: T26101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 14
                                                                                                                                                                                             셤
                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    요
A;Molecule type: DNA
A;Residues: 1-482 <HOF>
C;Residues: 1-482 <HOF>
C;Function:
C;Function: Catalyzes the hydrolysis of internal 1,4-alpha-D-glucosidic bonds
A;Description: catalyzes the hydrolysis of internal 1,4-alpha-D-glucosidic bonds
C;Superfamily: cyclomaltodextrin glucanotransferase/alpha-amylase; alpha-amylase core hock;Reywords: glycosidase; hydrolase; polysaccharide degradation
C;Keywords: glycosidase; hydrolase; polysaccharide degradation
F;194-319/Domain: alpha-amylase core homology <AMY>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Cipate: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 09-Jul-2004
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 09-Jul-2004
C;Date: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 09-Jul-2004
C;Date: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 09-Jul-2004
C;Accession: G6143
C;Accession: G6144
C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              hypothetical protein F17J16.130 - Arabidopsis thaliana
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 20-Apr-2000 #sequence_revision 20-Apr-2000 #text_change 09-Jul-2004
C;Accession: T47790
R;D'Angelo, M.; Vezzi, A.; Modesto, D.; Pigazzi, M.; Valle, G.; Mewes, H.W.; Rudd, S.; Isubmitted to the Protein Sequence Database, April 2000
A;Reference number: Z24476
A;Reference number: Z24476
A;Reference preliminary
A;Reluminary
A;Residues: 1-535 cDAN>
A;Residues: 1-535 cDAN>
A;Residues: 1-535 cDAN>
A;Cross-references: UNIPROT:O9LYS8; UNIPARC:UPI00000AC14B; EMBL:AL163527
A;Experimental source: cultivar Columbia; BAC clone F17316
C;Genetics:
A;Map Position: 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Molecule type: DNA
A;Residues: 1-485 <STO>
A;Cross-references: UNIPROT:Q9LNJ3; UNIPARC:UPI00009E0F7; GB:AE005172; NID:g9665144; ]
C;Genetics:
A;Map position: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                        ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .
0
                                                                                                                                                                                                                                                                                                                                                                                Length 482;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   66.7%; Score 6; DB 2; Length 485; 100.0%; Pred. No. 12; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 2; Length 535;
                                                                                                                                                                                                                                                                                                                                                                                                                                                        0; Indels
                                                                                                                                                                                                                                                                                                                                                                                DB 2;
                                                                                                                                                                                                                                                                                                                                                                            Query Match 66.7%; Score 6; DB 2; Best Local Similarity 100.0%; Pred. No. 12; Matches 6; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     66.7%; Score 6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity 100.
Matches 6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                409 VDDTFY 414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    327 DŤFÝÝV 332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2 VDDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4 DTFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Map position: 3
A; Note: F17J16.130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
```

셤 ઠે

ö

Gaps

ö

Gaps

```
Query Match
Best Local Similarity 100...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                               1-128 <STO>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         KVDDT 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DDTFY 68
                                                                                                                                                                                                                                                                                                                                                                               A; Status: preliminary A; Molecule type: DNA A; Residues: 1-128 < STC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Status: preliminary
            71 KVDDT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 KVDDT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3 DDTFY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Accession: A59055
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Gene: Z2511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C; Genetica
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 19
                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       윱
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                               C;Species: Clostridium acetobutylicum
C;Date: 14-Sep-2001 #text_change 09-Jul-2004
C;Date: 14-Sep-2001 #text_change 09-Jul-2004
C;Accession: D97355
R;Nolling, J.; Breton, G.; Omelchenko, M.V.; Markarova, K.S.; Zeng, Q.; Gibson, R.; Lee, J. Daly, M.J.; Bennett, G.N.; Koonin, E.V.; Smith, D.R.
A; Batteriol. 183, 4823-4838, 2001
A;Title: Genome Sequence and Comparative Analysis of the Solvent-Producing Bacterium Clc A;Reference number: A66900; MUID:21359325; PMID:21359325
A;Title: Endonuclease G from mammalian nuclei is identical to the major endonuclease of A;Reference number: $53874; MUID:95175374; PMID:7870594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   C;Date: 20-Feb-1995 #sequence_revision 20-Feb-1995 #text_change 09-Jul-2004
C;Accession: $25001
R;Davies, K.M.; King, G.A.
submites, K.M.; King, G.A.
Submites, C. the EMBL Data Library, June 1992
A;Description: Isolation and characterization of asparagus officinalis L. cDNA clones en A;Reference number: $25001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Cross-references: UNIPROT: Q04353; UNIPARC: UPI0000139447; GB:AE001437; PIDN:AAK81631.1; A;Experimental source: Clostridium acetobutylicum ATCC824 C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A. Accession: S25001
A. Status: preliminary
A. Molecule type: mRNA
A. Molecule type: mRNA
A. Molecule type: mRNA
A. Molecule type: mRNA
A. Residues: 1-118 < DAV>
A. Cross-references: UNIPROT: P31753; UNIPROT: P03993; UNIPARC: UPI000016D9FA; EMBL: X66875;
C. Superfamily: ubiquitin / rat ribosomal protein S27a; ribosomal protein S27a homology;
C. Reywords: nucleus
F: 1-40/Domain: ubiquitin (fragment) #Status predicted < UBI>
F: 1-40/Product: ubiquitin (fragment) #Status predicted < UBI>
F: 118/Product: ribosomal protein S27a #status predicted < RIBP>
F: 65-115/Domain: ribosomal protein S27a homology < RIB>
                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ubiquitin/ribosomal protein S27a fusion protein - garden asparagus
C;Species: Asparagus officinalis (garden asparagus)
C;Date: 20-Feb-1995 #sequence_revision 20-Feb-1995 #text_change 09-Jul-2004
                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ..
0
                                                                                                                                                                                                                                      0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 118;
                                                                                                                                                                                        Length 72;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 90;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                55.6%; Score 5; DB 2;
100.0%; Pred. No. 45;
ive 0; Mismatches
                                                                                                                                                                                        DB 2;
                                                                                                                                                                                 55.6%; Score 5; DB 2
100.0%; Pred. No. 38;
iive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      55.6%; Score 5; DB 2 ilarity 100.0%; Pred. No. 55; Conservative 0; Mismatches
                                        A Accession: 853874
A Status: preliminary
A Molecule type: protein
A Residues: 1.72 <GER>
A: Cross-references: UNIPARC:UPI000017C100
                                                                                                                                                                               Query Match
Best Local Similarity 100.0
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity 100.
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                    ||||||
DDTFY 24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-90 <KUR>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    se kvbbr 60
                                                                                                                                                                                                                                                                            3 DDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A.Gene: CAC3711
                                                                                                                                                                                                                                                                                                                        20
                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    а
```

8

```
hypothetical protein 22511 [imported] - Escherichia coli (strain 0157:H7, substrain EDL C;Species: Escherichia coli (c;Species: Escherichia coli (d;Species: Escherichia coli (d;Species: Especies: Espe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A/Rolecule type: protein
A/Residues: 1-134 <HOF>
A/Across-references: UNIPARC:UPI0000050AE5
A/Across-references: UNIPARC:UPI000050AE5
A/Across-referen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Cross-references: UNIPROT:08X3T8; UNIPARC:UPI0000D0EB0; GB:AE005174; NID:g12515499; A;Experimental source: strain 0157:H7, substrain EDL933
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        phospholipase A2 (EC 3.1.1.4), venom - Indian honeybee
N;Alternate names: allergen api c1
C;Species: Apis mellifera cerana (Indian honeybee)
C;Date: 20-Aug.1999 #sequence_revision 20-Aug.1999 #text_change 16-Aug-2004
C;Accession: A59055
R;Hoffman, D.R.; Schmidt, J.O.
A;Description: Venom phospholipase A2.
A;Reference number: A59055
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                hypothetical protein YP00641 [imported] - Yersinia pestis (strain CO92)
C;Species: Yersinia pestis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 128;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 134;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            55.6%; Score 5; DB 2
100.0%; Pred. No. 58;
tive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          55.6%; Score 5; DB 2
100.0%; Pred. No. 60;
ive 0; Mismatches
```

```
A;Molecule type: mRNA
A;Residues: 1-156 <HOF2>
A;Cross-references: UNIPARC:UP1000016DE25; GB:X58253; NID:g19396; PIDN:CAA41207.1; PID:g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A,Molecule type: mRNA
A,Residues: 1-156 cGAF.
A,Ecostues: 1-156 cGAF.
A,Cross-references: UNIPARC:UP1000016DE25; EMBL:Z11669; NID:921600; PIDN:CRA77735.1; PID
C;Superfamily: ubiquitin / rat ribosomal protein S27a; ribosomal protein S27a homology;
C;Reywords: protein biosyrthesis; ribosome
F;1-76/Product: ubiquitin #status predicted cUBI>
F;1-76/Domain: ubiquitin homology cUBH>
                                                                                                                                                                                                                                                                                                       ubjuilin / ribosomal protein S27a - tomato

WiAlternate names: ubiquitin fusion protein ubi3

WiAlternate names: ubiquitin fusion protein ubi3

WiAlternate names: ubiquitin fusion brotein S27s, ubiquitin

C;Species: Lycopersicon esculentum (tomato)

C;Date: 31-Mar-1993 #sequence revision 31-Mar-1993 #text_change 09-Jul-2004

C;Accession: S18351; 827280; Est4656

R;Hoffman, N.E.; Ko, K.; Milkowski, D.; Pichersky, E.
Plant Mol. Biol. 17, 1189-1201, 1991

A;Title: Isolation and characterization of tomato cDNA and genomic clones encoding the upixelession: S18351; MUID:92032784; PMID:1657246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Map position: 1

S. Suberfamily: ubjquitin / rat ribosomal protein S27a; ribosomal protein S27a homology;
C; Superfamily: ubjquitin #status protein degradation; ribosome
E;1-76/Product: ubjquitin #status predicted <MAT1>
E;1-76/Product: ribosomal protein S27a #status predicted <MAT2>
F;77-156/Product: ribosomal protein S27a homology <RIB>
F;10-151/Domain: ubjquitin protein S27a homology <RIB>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Molecule type: DNA
A;Residues: 1-156 <HOF1>
A;Cross-references: UNIPROT:P27083; UNIPROT:P03993; UNIPARC:UP1000016DE25; EMBL:X58253;
A;Accession: S27280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ubiquitin / ribosomal protein S27a - potato
N;Contains: ribosomal protein S27a; ubiquitin
C;Species: Solanum tuberosum (potato)
C;Species: Solanum tuberosum (potato)
C;Date: 03-Feb-1994 #sequence_revision 03-Feb-1994 #text_change 21-Jul-2000
C;Accession: S25305; S19798
R;Garbarino, J.E.; Rockhold, D.R.; Belknap, W.R.
Plant Mol. Biol. 20, 235-244, 1995
A;Fitle: Expression of stress-responsive ubiquitin genes in potato tubers.
A;Reference number: S25305; MUID:93004476; PMID:1327270
                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  F;77-156/Product: ribosomal profein S27a #status predicted <WAT>
F;101-151/Domain: ribosomal protein S27a homology <RIB>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 156;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 156;
                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0; Indels
                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     55.6%; Score 5; DB 2;
100.0%; Pred. No. 68;
tive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 1;
                     Pred. No. 62; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            68;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              55.6%; Score 5; DB 1
100.0%; Pred. No. 68;
cive 0; Mismatches
100.08;
                                                   5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity 100.
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Local Similarity
Matches 5: Congery
                     Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     107 KVDDT 111
                                                                                                                                               ||||||
41 VDDTF 45
                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 KVDDT 5
                                                                                                       2 VDDTF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Accession: S25305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                  Best Local
Matches
                                                                                                                                                                                                                                                         22
                                                                                                                                                              셤
                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             C;Accession: I53298
R;Bucco, R.A.; Melner, M.H.; Gordon, D.S.; Leers-Sucheta, S.; Ong, D.E.
Endocrinology 136, 2730-2740, 1995
A;Reference number: I53298, MUD: 95269720; PMID: 7750498
A;Reference number: I53298, MUD: 95269720; PMID: 7750498
A;Accession: I53298
A;Accession: I53298
A;Accession: I53298
A;Residues: Using protein II in rat ovary: A;Status: preliminary; translated from GB/EMEL/DDBJ
A;Rolecule type: mRNA
A;Residues: 1-139 <-RES>
A;Cross-references: UNIPROT: P51673; UNIPARC: UPIO000167AAC; EMBL: U23407; NID: G727432; PIC
C;Generics:
A;Gene: CRABP II
C;Superfamily: myelin P2 protein
                                                            F. Parkhill, J.; Wren, B.W.; Thomson, N.R.; Titball, R.W.; Holden, M.T.G.; Prentice, M.B. deno-Tarraga, A.M.; Chillingworth, T.; Cronin, A.; Davies, R.M.; Davis, P.; Dougan, G.; Li, M.; Rutherford, K.; Simmonds, M.; Skelton, J.; Stevens, K.; Whitehead, S.; Barrell, Nature 413, 523-527, 2001
A; Title: Genome sequence of Yersinia pestis, the causative agent of plague.
A; Reference number: AB0001; MUD:21470413; PMID:11586360
A; Accession: AC0079
A; Accession: AC0079
A; Residues: DNA
A; Residues: 1-134 < KUR>
A; Crosser-references: UNIPROT:Q8Z174; UNIPARC:UP100000CD6FF; GB:AL590842; PIDN:CAC89494.1; A; Gene: YP00641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Clacesion: T50420
Riseger, K.; Harris, D.; Wood, V.; Rajandream, M.A.; Barrell, B.G.
Bubmittee the EMBL Data Library, February 2000
A;Reference number: Z25039
A;Accession: T50420
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Residues: 1-140 <SEE>
A;Residues: 1-140 <SEE>
A;Cross-references: UNIPROT: Q9USS9; UNIPARC: UPI00006A970; EMBL: ALIS7991; PIDN: CAB76222.
C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            shk1 kinase-binding protein 5. [imported] - fission yeast (Schizosaccharomyces pombe)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
            02-Nov-2001 #sequence_revision 02-Nov-2001 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     cellular retinoic acid-binding protein II - rat
C;Species: Rattus norvegicus (Norway rat)
C;Date: 02-Aug-1996 #sequence_revision 02-Aug-1996 #text_change 09-Jul-2004
C;Accession: I53298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Species: Schizosaccharomyces pombe; Date: 09-Jun-2000 #text_change 09-Jul-2004; Accession: T50420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 2; Length 140;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  55.6%; Score 5; DB 2;
100.0%; Pred. No. 62;
iive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           55.6%; Score 5; DB 2; 100.0%; Pred. No. 60;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                55.6%; Score 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ilarity 100.0%;
Conservative 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Genetics:
Gene: SPDB:SPCC24B10.13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best_Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ||||||
91 DTFYY 95
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4 DTFYY 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3 DDTPY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       49 DDTFY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Map position: 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
```

g ઠે

셤 ઠે

ö

```
A; Authors: Hunter, J.L.; Jenkins, J.; Johnson-Hopson, C.; Khan, S.; Khaykin, E.; Kim, C.A.; Li, J.H.; Li, Y.; Lin, X.; Liu, S.X.; Liu, Z.A.; Luros, J.S.; Maiti, R.; Mazziali Rizzo, M.; Soneey, T.; Rowley, D.; Sakano, H.
A; Authors: Salzberg, S.L.; Schwartz, J.R.; Shinn, P.; Southwick, A.M.; Sun, H.; Tallon, ker, M.; Wu, D.; Yu, G.; Fraser, C.M.; Venter, J.C.; Davis, R.W.
A; Title: Sequence and analysis of chromosome 1 of the plant Arabidopsis.
A; Reference number: A86141; MUID:21016719; PMID:11130712
A; Status: preliminary
A; Molecule type: DNA
A; Residues: 1-264 <STO>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              C.5pecies: Pseudomonas aeruginosa
R.5tover, C.K.; Pham, X.Q.; Erwin, A.L.; Mizoguchi, S.D.; Warrener, P.; Hickey, M.J.; B
R.5tover, C.K.; Pham, X.Q.; Erwin, A.L.; Coulter, S.N.; Folger, K.R.; Kas, A.; Larbig, K.; Lim
A.5 Lory, S.; Olson, M.V.
Nature 406, 959-964, 2000
A.7Itle: Complete ganome sequence of Pseudomonas aeruginosa PA01, an opportunistic path.
A.7Reference number: A82950; MUID:20437337; PMID:10984043
A.7Reference number: A82950; MUID:20437337; PMID:10984043
A.7Residues: preliminary
A.7Residues: 1-275 cSTO>
A.7Cross-references: UNIPROT:091433; UNIPARC:UP100000C5306; GB:AE004560; GB:AE004091; NIOCC506netics:
A.5Eperimental source: strain PA01
C.6Genetics:
A.6Gene: phnX; PA1311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C;Species: Deinococcus radiodurans
C;Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 31-Dec-2004
C;Accession: H75326
C;Accession: H75326
R;White, O.; Eisen, J.A.; Heidelberg, J.F.; Hickey, B.K.; Peterson, J.D.; Dodson, R.J.;
M.; Shen, M.; Vamathevan, J.J.; Lam, P.; McDonald, L.; Utterback, T.; Zalewski, C.; M.
S; Smith, H.O.; Venter, J.C.; Praser, C.M.
Science 286, 1571-1577, 1999
A;Title: Genome sequence of the radioresistant bacterium Deinococcus radiodurans R1.
A;Reference number: A75250; MUID:20036896; PMID:10567266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Accession: H75326
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-279 <#MIL>
A;Cross-references: UNIPROT:Q9RSWO; UNIPARC:UPI0000137411; GB:AE002038; GB:AE000513; NI:
A;Experimental source: strain R1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Cross_references: UNIPROT:Q9FVSO; UNIPARC:UPI00000A44DB; GB:AE005173; NID:g11079522; C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     tRNA (guanine-N1)-methyltransferase - Deinococcus radiodurans (strain R1)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               55.6%; Score 5; DB 2; Lengtn 2027, 100.0%; Pred. No. 16+02; 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match 55.6%; Score 5; DB 2; Length 275; Best Local Similarity 100.0%; Pred. No. 1e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            100.0%; Pred. ...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Best Local Similarity 100.
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     107 KVDDT 111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                186 KVDĎT 190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Gene: F12K22.17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Map position: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C;Accession: A83956
R;Takami, H.; Nakasone, K.; Takaki, Y.; Maeno, G.; Sasaki, R.; Masui, N.; Fuji, F.; Hira Nucleic Acids Res. 28, 4317-4331, 2000
A;Title: Complete genome sequence of the alkaliphilic bacterium Bacillus halodurans and A;Title: Complete genome sequence of the alkaliphilic bacterium Bacillus halodurans and A;Recession: A83956
A;Accession: A83956
A;Accession: A83956
A;Accession: Preliminary
A;Molecule type: DNA
A;Residues: 1.263 cSTO>
A;Cross-references: UNIPROT:Q9KA41; UNIPARC:UPI00000C3EF4; GB:AP001515; GB:BA000004; NIC
C;Genetics:
A;Genetics:
A;Genetics:
C;Guperfamily: rod protein flgF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A; Reference number: A75001
A; Reference number: A75001
A; Accession: A75176
A; Accession: A75176
A; Accession: A75176
A; Crossion: A75176
A; Residues: 1-211 < KGAW>
A; Cross-references: UNIPROT: Q9V162; UNIPARC: UPI0000034682; GB: AJ248284; GB: AL096836; NID A; Experimental source: strain Orsay
C; Genetics:
A; Experimental source: strain orsay
C; Genetics:
A; Gene: PAB1981
C; Superfamily: Methanobacterium thermoautotrophicum dolichyl-phosphate mannose synthase
                                                                                                                                                                                                                                                                                                                                                                                                                                        C; Accession: A75176
R; anonymous, Genoscope
submitted to the EMBL Data Library, July 1999
A; Description: Pyrococcus abyssi genome sequence: insights into archaeal chromosome strugistering and a sequence of the management of the sequence of the sequence
                                                                                                                                                                                                                                                                                                          dolichyl-phosphate mannose synthase related protein PAB1981 - Pyrococcus abyssi (strain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       hypothetical protein F12K22.17 [imported] - Arabidopsis thaliana (C.Species: Arabidopsis thaliana (mouse-ear cress) (C.Species: Arabidopsis thaliana (mouse-ear cress) (C.Species: Oz-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 09-Jul-2004 (C.Accession: B96612 (C.Accession: B96612 (C.A.C. Federspiel, N.A.; Kaul, S.; White, O.; Alonso, C.M.; C.W.; Chung, M.K.; Conn, L.; Conway, A.B.; Conway, A.R.; Creasy, T.H.; Dewar, K.; ansen, N.F.; Hughes, B.; Huizar, L. Nature 408, 816-820, 2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                    Species: Pyrococcus abyssi
Date: 20-Aug-1999 #sequence_revision 20-Aug-1999 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           flagellar hook protein flgE [imported] - Bacillus halodurans (strain C-125) C;Species: Bacillus halodurans C;Date: 01-Dec-2000 #sequence_revision 01-Dec-2000 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           55.6%; Score 5; DB 2; Length 263; 100.0%; Pred. No. 1e+02; Live 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 211;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
55.6%; Score 5; DB 2
Best Local Similarity 100.0%; Pred. No. 85;
Matches 5; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Best Local Similarity 100.
Matches 5; Conservative
                                                       107 KVDDT 111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |||||
139 KVDDT 143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DIFYY 112
    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4 DTFYY 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                               셤
ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     a
```

```
A;Cross-references: UNIPROT:Q14249; UNIPARC:UPI0000161B77; EMBL:X79444; NID:e1315166; Pl
C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                              A; Description: involved in the replication and transcription of the mitochondrial genome C; Superfamily: nuclease NUC1
C; Keywords: endonuclease; hydrolase; mitochondrion
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       C;Species: Hyoscyamus muticus
C;Date: 19-Oct-1995 #sequence_revision 19-Oct-1995 #text_change 09-Jul-2004
C;Accession: Bs6118
C;Accession: Bs6118
R;Back, K.; Chappell, J.
J. Biol. Chem. 270, 7375-7381, 1995
J. Biol. Chem. 270, 7375-7381, 1995
A;Title: Cloning and bacterial expression of a sesquiterpene cyclase from Hyoscyamus mut
A;Reference number: A56118; MUID:95221394; PMID:7706281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Status: preliminary
A;Aolecule type: mRNA
A;Residuss: 1-300 «BAC»
A;Cross-references: UNIPROT:Q39979; UNIPARC:UPI00000A5CCF; GB:U20189; NID:g763424; PIDN:
C;Superfamily: vetispiradiene synthase 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 297;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        55.6%; Score 5; DB 2; Length 300; 100.0%; Pred. No. 1.1e+02; ive 0; Mismatches 0; Indel8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      vetispiradiene synthase 2 - Hyoscyamus muticus (fragment)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    55.6%; Score 5; DB 2; Le: 100.0%; Pred. No. 1.1e+02; tive 0; Mismatches 0;
                                                                                                                                                                                                                             A;Status: preliminary, translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-297 <ZEV>
                                                                                                                                           R;Zeviani, M.
submitted to the EMBL Data Library, August 1998
A;Reference number: Z16729
A;Accession: T09542
                                                       precursor - human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity 100.
Matches 5; Conservative
                                                   endonuclease G (EC 3.1.30.-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DDTFY 160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VDDTF 57
                                                                                                                                                                                                                                                                                                                                             A; Map position: 9q34.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3 DDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2 VDDTF 6
                                                                                                                    C; Accession: T09542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Accession: AH0763
                                                                                                                                                                                                                                                                                                                                                                    A; Genome: nuclear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             53
                                                                                                                                                                                                                                                                                                                                                                                           C; Function:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AH0763
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Б
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               C; Accession: AG3556
R; DelVecchio, V.G.; Kapatral, V.; Redkar, R.J.; Patra, G.; Mujer, C.; Los, T.; Ivanova, J.; Mazur, M.; Goltsman, E.; Selkov, E.; Elzer, P.H.; Hagius, S.; O'Callaghan, D.; Letess Proc. Natl. Acad. Sci. U.S.A. 99, 443-448, 2002
A; Title: The genome sequence of the facultative intracellular pathogen Brucella melitens A; Reference number: AD3252; PMID:1175688
A; Accession: AG3556
A; Status: preliminary
A; Molecule type: DNA
A; Residues: 1-284 <KUR>
A; Residues: 1-284 <KUR>
A; Cross-references: UNIPROT: Q8YD01; UNIPARC: UPI0000058467; GB: AE008918; PIDN: AAL53618.1; C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                  C, Accession: T21974
Rilemard, N.
Submitted to the EMBL Data Library, July 1996
A; Reference number: Z19496
A; Reference number: Z19496
A; Recession: T21974
A; Recession: T21974
A; Residues: presiminary; translated from GB/EMBL/DDBJ
A; Residues: 1-284 < WIL>
A; Residues: 1-284 < WIL>
A; Residues: 1-284 < WIL>
A; Cross-references: UNIPROT: Q20180; UNIPARC: UPI0000074C84; EMBL: Z77660; PIDN: CAB01173.1;
C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                heat resistant agglutinin 1 precursor (imported) - Brucella melitensis (strain 16M)
C;Species: Brucella melitensis
C;Date: 01-Feb-2002 #sequence_revision 01-Feb-2002 #text_change 09-Jul-2004
                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                        Species: Caenorhabditis elegans
Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 05-Oct-2004
                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                           ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Map position: 4
A;Introns: 25/3; 221/3
C;Superfamily: scyllo-inosamine-4-phosphate amidinotransferase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    h Similarity 100.0%; Pred. No. 1.1e+02; 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 55.6%; Score 5; DB 2; Length 284; Best Local Similarity 100.0%; Pred. No. 1.1e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                             Length 279;
                                                                                                                                       0; Indels
                                                                                                                                                                                                                                                                                                                                      hypothetical protein F38H4.5 - Caenorhabditis elegans
                                                                                                                  1.1e+02;
                                                                                             DB 2;
                                                                                        55.6%; Score 5; DB 2
100.0%; Pred. No. 1.1
:ive 0; Mismatches
                         A;Map position: 1
C;Superfamily: tRNA-(m1G37) methyltransferase
                                                                                        Query Match
Best Local Similarity 100.0
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |||||
168 DDTFY 172
                                                                                                                                                                                                          |||||
49 KVDDT 53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3 DDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Gene: CESP: F38H4.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2 VDDTF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           C;Genetics:
A;Gene: BMEII0376
A;Map position: II
A,Gene: DR2011
                                                                                                                                                                                 δ
                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       쉱
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
```

A;Status: preliminary

```
Ablass Specials Specials Specials Special Spec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Reaidues: 1-313 <GLA>
A;Cross-references: UNIPROT:Q8Y6KO; UNIPARC:UP10000553EO; GB:NC_003210; PIDN:CAC99762.
A;Experimental source: strain EQD-e
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Glycerate dehydrogenases homolog lin1792 [imported] - Listeria innocua (strain Clip1126 C; Species: Listeria innocua (strain Clip1126 C; Species: Listeria innocua con C; Species: Listeria innocua con C; Species: Listeria innocua cipate: 27.Nov-2001 #sequence_revision 27-Nov-2001 #text_change 05-Oct-2004 C; Accession: AG1656 R; Glaser, P.; Frangeul, L.; Buchrieser, C.; Amend, A.; Baquero, F.; Berche, P.; Bloecke, J. Dominguez-Bernal, G.; Duchaud, E.; Durand, L.; Dussurget, O.; Entian, K.D.; Fsihi, H.D.; Joninguez-Bernal, G.; Duchaud, E.; Durand, L.; Dussurget, O.; Entian, K.D.; Fsihi, H.D.; Joninguez-Bernal, G.; Schlueter, V.; Kanst, F.; Kurapkat, G.; Madueno, E.; Maitournam, A.; M.A.; A; A; Litle: Comparative genomics of Listeria species.

A; Reference number: AB1077; MUID:21537279; PMID:11679669
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Molecule type: DNA
A;Residues: 1-313 <GLA>
A;Cross-references: UNIPROT:Q92AX6; UNIPARC:UPI0000CC675; GB:AL592022; PIDN:CAC97023.1
A;Experimental source: strain Clip11262
C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 313;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           55.6%; Score 5; DB 2; Length 313; 100.0%; Pred. No. 1.1e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 313;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              55.6%; Score 5; DB 2; Le 100.0%; Pred. No. 1.1e+02; ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C; Superfamily: Phosphoglycerate dehydrogenase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A,Gene: lin1792
C,Superfamily: Phosphoglycerate dehydrogenase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 38
S51729
NSP3 protein - human rotavirus (strain S2)
N'Alternate names: NS34 protein
C;Species: human rotavirus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity 100.
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          24 DTFYY 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DDTFY 27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4 DTFYY 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3 DDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Molecule type: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       C;Genetics:
A;Gene: lmo1684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 37
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          C;Species: Clostridium acetobutylicum
C;Date: 14-Sep-2001 #sequence_revision 14-Sep-2001 #text_change 09-Jul-2004
C;Date: 14-Sep-2001 #sequence_revision 14-Sep-2001 #text_change 09-Jul-2004
C;Accession: G97132
R;Nolling, J.; Breton, G.; Omelchenko, M.V.; Markarova, K.S.; Zeng, Q.; Gibson, R.; Lee, J. Daly, M.J.; Bennett, G.N.; Koonin, B.V.; Smith, D.R.
J. Bacteriol. 183, 4823-4838, 2001
A;Title: Genome Sequence and Comparative Analysis of the Solvent-Producing Bacterium Clc A;Reference number: A96900; MUID:21359325; PMID:21359325
A;Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A,Cross-references: UNIPROT:097HXO, UNIPARC:UPI00000CA33E, GB:AE001437; PIDN:AAK79850.1;
A,Experimental source: Clostridium acetobutylicum ATCC824
C;Genetics: A,Gene: CAC1886
A;Residues: 1-304 <PAR>
A;Cross-references: UNIPARC:UPI0000059C58; GB:AL513382; PIDN:CAD02430.1; PID:g16503297;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 02-Jun-2000 #sequence_revision 02-Jun-2000 #text_change 09-Jul-2004
C;Date: 02-Jun-2000 #sequence_revision 02-Jun-2000 #text_change 09-Jul-2004
C;Datesion: T49912
R;Bevan, M.; Robben, J.; Grymonprez, B.; Volckaert, G.; Bancroft, I.; Mewes, H.W.; Rudd, submitted to the Protein Sequence Database, April 2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Accession: T49912
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-311 <BEV>
A;Crose-references: UNIPROT:09LXU1; UNIPARC:UPI0000005377; EMBL:AL353013; GSPDB:GN00063;
A;Experimental source: cultivar Columbia; BAC clone T24H18
                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              uncharacterized phage related protein [imported] - Clostridium acetobutylicum
                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Gene: ATSP:T24H18.150
A;Map position: 5
A;Introns: 56/3; 80/3; 110/3; 125/1; 160/3; 192/3; 256/2; 279/3
                                                                                                                                                                                                                                     Length 304;
                                                                                                                                                                                                                             55.6%; Score 5; DB 2; Length 304; 100.0%; Pred. No. 1.1e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             55.6%; Score 5; DB 2; Length 306; 100.0%; Pred. No. 1.1e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 2; Length 311;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              hypothetical protein T24H18.150 - Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1.1e+02;
tes 0;
                                                                                                             A;Gene: STY2278
C;Superfamily: probable transcription regulator ybbS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
55.6%; Score 5; DB 2
Best Local Similarity 100.0%; Pred. No. 1.1
Matches 5; Conservative 0; Mismatches
                                                                                                                                                                                                                  Query Match
Best Local Similarity 100.
Matches 5, Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 55.6
Best Local Similarity 100.
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                ||||||
99 VDDTF 103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Residues: 1-306 <KUR>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   111 kvbbr 115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          160 KVDDT 164
                                                                                                                                                                                                                                                                                                                                                                                 2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A; Molecule type: DNA
                                                                             C, Genetics:
                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
```

ö

Gaps

ö

ö

Gaps

ô

Gaps

ö

Length 316;

```
probable transcription regulator LYSR-type [imported] - Escherichia coli (strain 0157:H7
C;Species: Escherichia coli
C;Date: 18-Jul-2001 #sequence_revision 18-Jul-2001 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        C;Accession: A99981
R;Hayashi, T.; Makino, K.; Ohnishi, M.; Kurokawa, K.; Ishii, K.; Yokoyama, K.; Han, C.G. gasawara, N.; Yasunaga, T.; Kuhara, S.; Shiba, T.; Hattori, M.; Shinagawa, H. DNA Res. 8, 11-22, 2001
A;Title: Complete genome sequence of enterohemorrhagic Escherichia coli O157:H7 and genc A;Reference number: A99629; MUID:21156231; PMID:11258796
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A,Status: preliminary
A,Molecule type: DNA
A,Residues: 1-316 <HRY>
A,Cross-references: UNIPROT: Q8X4U0; UNIPARC: UPI0000DDD78; GB:BA000007; PIDN:BAB36240.1;
A,Experimental source: strain O157:H7, substrain RIMD 0509952
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  probable transcription regulator LYSR-type yeey [imported] - Escherichia coli (strain Oll Species: Escherichia coli (5.5pecies: Escherichia coli (5.5pecies: 16-Peb-2001 #sequence_revision 16-Peb-2001 #text_change 09-Jul-2004 C;Accession: P85526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Riperna, N.T.; Plunkett III, G.; Burland, V.; Mau, B.; Glasner, J.D.; Rose, D.J.; Mayhew iller, L.; Grotbeck, B.J.; Davis, N.W.; Lim, A.; Dimalanta, B.; Potamousis, K.; Apodaca, Mature 409, 529-533, 2001
A;Title: Genome sequence of enterohemorrhagic Escherichia coli O157:H7.
A;Reference number: A85480; MUID:21074935; PMID:11206551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A,Cross-references: UNIPROT:Q8X4U0, UNIPARC:UPI0000DDD78; GB:AE005174; NID:g12516196; P
A,Experimental source: strain 0157:H7, substrain EDL933
    C;Keywords: DNA binding; nucleotide binding; P-loop; transcription regulation F;307-314/Region: nucleotide-binding motif A (P-loop)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 55.6%; Score 5; DB 2; Length 316; Best Local Similarity 100.0%; Pred. No. 1.2e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 2; Length 316;
                                                                                                                                                  Query Match 55.6%; Score 5; DB 1; Length 316; Best Local Similarity 100.0%; Pred. No. 1.2e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match 55.6%; Score 5; DB 2; Length 316; Best Local Similarity 100.0%; Pred. No. 1.2e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      C;Genetics:
A;Gene: yeeY
C;Superfamily: probable transcription regulator ybbS
C;Superfamily: Line C: Discription regulator C;Superfamily: Discription regulator ybbS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              C; Superfamily: probable transcription regulator ybbS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       106 VDDTP 110
                                                                                                                                                                                                                                                                                                                                                                                                                                  106 VDDTF 110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              106 VDDTF 110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A, Residues: 1-316 <STO>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Status: preliminary
A;Molecule type: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Accession: F85826
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2 VDDTF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Gene: EC82817
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      C, Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 43
                                                                                                                                                                                                                                                                                                                                                ਨੇ
                                                                                                                                                                                                                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         probable transcription regulator yeeY - Escherichia coli (strain K-12)
C;Species: Escherichia coli
C;Species: IO-Sep-1999 #text_change 01-Mar-2002
C;Accession: F64966
R;Blattner, F.R.; Plunkett III, G.; Bloch, C.A.; Perna, N.T.; Burland, V.; Riley, M.; Cc
A.; Rose, D.J.; Mau, B.; Shao, Y.
Science 277, 1453-1462, 1997
A;Title: The complete genome sequence of Escherichia coli K-12.
A;Recession: F64966
A;Status: nucleic acid sequence not shown; translation not shown
A;Status: nucleic acid sequence not shown; translation not shown
A;Status: nucleic acid sequence not shown; translation not shown
A;Residues: 1-316 cBLAT>
A;Cross-references: UNIPARC:UPI00001680FE; GB:AE000293; GB:U00096; NID:g2367127; PIDN:AP
A;Experimental source: strain K-12, substrain MG1655
C;Geneticia:
A;Gene: yeey
C;Superfamily: probable transcription regulator ybbS
                                                                                                                                                                                                                           A;Reference number: S51709
A;Accession: S51729
A;Accession: S51729
A;Accession: S51729
A;Molecule type: mRNA
A;Residues: 1-313 < RAO>
A;Cross-references: UNIPROT: Q82052; UNIPARC: UPI0000EC0A9; EMBL: X81428; NID: g607093; PIC
C;Superfamily: rotavirus nonstructural protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Cyacce of Connection, Government of Connection, Government of Cyacce of Connection, Government of Connection, Britania, Government, Govern
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   probable regulatory protein STY0014 [imported] - Salmonella enterica subsp. enterica ser Salmonella enterica ser subsp. enterica serovar Typhi A;Note: this species has also been called Salmonella typhi C;Pote: the species has entering serovar Typhi C;Date: (9-Nov-2001 #sequence_revision 09-Nov-2001 #text_change 18-Nov-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
A, Variety: strain S2
C, Date: 07-May-1995 #sequence_revision 17-Nov-1995 #text_change 09-Jul-2004
C, Accession: S51729
R, Rao, C.D.; Das, M.; Rao, B.S.; Gowda, K.
submitted to the EMBL Data Library, September 1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 55.6%; Score 5; DB 2; Length 315; Best Local Similarity 100.0%; Pred. No. 1.2e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 55.6%; Score 5; DB 2; Length 313; Best Local Similarity 100.0%; Pred. No. 1.1e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |||||
154 VDDTF 158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   84 VDDTF 88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
```

ö

Gaps

ö

ö

Gaps

```
A;Cross-references: UNIPROT:Q9UAT6; UNIPARC:UP1000007A31B; EMBL:AF125952; PIDN:AAD14698
A;Experimental source: strain Bristol N2; clone C01B4
                                      A Molecule type: DNA
A Molecule type: DNA
A Mesidues: 1-329 <VAN>
A; Cross-references: UNIPARC:UPI0000052ED4; EMBL:Z49483; NID:g1015588; PIDN:CAA89505.1;
C; Genetics:
A; Gene: SGD:NUC1; MIPS:YJL208C
A; Cross-references: SGD:S0003744; MIPS:YJL208C
A; Map position: 10L
A; Genome: nuclear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             C;Accession: A10491
R;Parkhill, J.; Wren, B.W.; Thomson, N.R.; Titball, R.W.; Holden, M.T.G.; Prentice, M.B deno-Tarraga, A.M.; Chillingworth, T.; Cronin, A.; Davies, R.M.; Davis, P.; Dougan, G.; il, M.; Rutherford, K.; Simmonds, M.; Skelton, J.; Stevens, K.; Whitehead, S.; Barrell, Nature 413, 523-527, 2001
A;Title: Genome sequence of Yersinia pestis, the causative agent of plague.
A;Reference number: AB0001; MUID:21470413; PMID:11586360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             C'Species: Caenorhabditis elegans
C'Date: 29-0ct-1999 #sequence_revision 29-0ct-1999 #text_change 09-Jul-2004
C'Accession: T33944
R;Smith, A.; Wamsley, P.; Fronick, W.
submitted to the RMBL Data Library, February 1999
A;Description: The sequence of C. elegans cosmid C01B4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   probable membrane protein YPO4045 [imported] - Yersinia pestis (strain CO92)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               C;Species: Yersinia pestis
C;Date: 02-Nov-2001 #sequence_revision 02-Nov-2001 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gape
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A, Description: nuclease
A, Note: the protein has both RNAse and DNAse activity
C, Superfamily: nuclease NUC!
C, Keywords: homodimer; hydrolase; membrane protein; mitochondrion
F;138/Active site: His #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 329;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 330;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    55.6%; Score 5; DB 2; Les 100.0%; Pred. No. 1.2e+02; tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 5; DB 1; Le
Pred. No. 1.2e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      hypothetical protein C01B4.6 - Caenorhabditis elegans
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Status: preliminary; translated from GB/EMBL/DDBJ A;Molecule type: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      55.6%; Scor.
100.0%; Pred. No. ...
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Map position: 5
A;Introns: 49/1; 100/3; 133/3; 304/3
C;Superfamily: aldose 1-epimerase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity 100.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity 100.
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A, Residues: 1-330 <SMI>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        153 DDTPY 157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          189 VDDTF 193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A, Accession: A10491
A, Status: preliminary
A, Molecule type: DNA
A, Residues: 1-330 <KUR>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3 DDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          C; Complex: homodimer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A, Gene: CESP: C01B4.6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Accession: T33944
A; Accession: S56998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ŝ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NyAlternact names: protein HRB329; protein J0310; protein YUL208C
C;Species: Saccharomyces cerevisiae
C;Date: 30-Unn-1991 #sequence revision 30-Jun-1991 #text change 09-Jul-2004
C;Accession: S05888; S50777; S46621; S56995; S56998; S45165
R;Vincent, R.D.; Hofmann, T.J.; Zassenhaus, H.P.
Nucleic Acids Res. 16, 3297-3312, 1988
A;Pitle: Sequence and expression of NUC1, the gene encoding the mitochondrial nuclease i A;Reference number: S05888; MUID:88233924; PMID:2836792
A;Reference number: S05888; MUID:88233924; PMID:2836792
A;Reference number: S05888; MUID:88233924; PMID:2836792
A;Residues: 1-329 - VUIN>
A;Cross-references: UNIPROT:P08466; UNIPARC:UP10000052ED4; EMBL:X06670; NID:34062; PIDN: Yeast 10, 1657-1662, 1994
A;Title: Sequence analysis of a 40.2 kb DNA fragment located near the left telomere of y A;Reference number: S50701; MUID:95242842; PMID:7725802
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Residues: 1-329 < VANA>
A; Residues: 1-329 < VANA>
A; Cross-references: UNIPARC: UPI0000052ED4; EMBL: Z34098; NID: g496934; PIDN: CAA84003.1; PI A; Cross-references: UNIPARC: UPI0000052ED4; EMBL: Z34098; NID: g496934; PIDN: CAA84003.1; PI R; Varialle; E.; Coster, F.; Goffeau, A.
Yeast 10, 1235-1249, 1994
A; Title: The sequence of a 36 kb segment on the left arm of yeast chromosome X identifie as gene a ACO1 and two homologues to chromosome III genes.
A; Reference number: S46621; MUID: 95274326; PMID: 7754713
A; Accession: S46621
A; Accession: S46621
A; Accession: S46621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Cross-references: UNIPROT:Q21395; UNIPARC:UP10000079763; EMBL:U41033; PIDN:AAA82372.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    nuclease NUC1 (EC 3.1.30.-) precursor, mitochondrial - yeast (Saccharomyces cerevisiae)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Residues: 1-329 <a href="https://www.ncbar.com/residues: 1-329">residues: 1-329 <a href="https://www.ncbar.com/residues: 1-329">residues: 1-329 <a href="https://www.ncbar.com/residues-nun-ncbar.com/residues-nun-ncbar.com/residues-nun-ncbar.com/residues-nun-ncbar.com/residues-nun-ncbar.com/residues-nun-ncbar.com/residues-nun-ncbar.com/residues-nun-ncbar.com/residues-nun-ncbar.com/residues-nun-ncbar.com/residues-nun-ncbar.com/residues-nun-ncbar.com/residues-nun-ncbar.com/residues-nun-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residues-ncbar.com/residue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Cross-references: UNIPARC:UP1000052ED4; EMBL:Z49483; NID:g1015588; PIDN:CAA89505.1; R;Vandenbol, M.; Duzand, P.; Portetelle, D. Hilmer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                            CiSpecies: Caenorhabditis elegans
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 09-Jul-2004
C;Accession: T29624
R;Johnson, D.; Gattung, S.
B;Johnson, D;Johnson, D;Johnson, S.
B;Johnson, D;Johnson, D;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A,Gene: CESP:KO9B3.5
A,Introns: 75/1; 238/3
C,Superfamily: Caenorhabditis elegans hypothetical protein CO8A9.6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Status: nucleic acid sequence not shown; translation not shown A;Molecule type: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      55.6%; Score 5; DB 2; Length 317; 100.0%; Pred. No. 1.2e+02; Live 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                R; Vandenbol, M.; Durand, P.; Portetelle, D.; Hilger, F. submitted to the Protein Sequence Database, September 1995 A; Reference number: S56835
                      Pothetical protein K09E3.5 - Caenorhabditis elegans
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local Similarity 100.0%;
Matches 5; Conservative 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Residues: 1-317 <JOH>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          148 VDDTF 152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Molecule type: DNA
A; Residues: 1-329 < PUW>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Molecule type: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
```

C;Genetics: A;Gene: YPO4045

δ g

```
hypothetical 37.6K protein (glyQ-xylB intergenic region) - Escherichia coli (strain K-1. N.Alternate names: hypothetical protein 0331 C.Species: Escherichia coli C.Species: Escherichia coli C.Jacesies: Escherichia coli C.Jacesies: Escherichia coli C.Jacesies: Escherichia coli C.Jacesies: Escherichia coli R.Jacesies: S47782; C65155 R.Jacesies: S47782; C65155 R.Jacesies: R.Jacesies: C65155 R.
                                                                                                                                                                                                                                                                                                                                                            A; Reference number: S4766
A; Reference number: S4766
A; Accession: S47782
A; Accession: S47782
A; Accession: S47782
A; Accession: S47782
A; Residua: preliminary
A; Molecule type: DNA
A; Residuaes: 1-31 < FULX
A; Cross-references: UNIPROT: P37669; UNIPARC: UPI000013B368; EMBL: U00039; NID: G46582; PID
A; Rose, D.G.; Mau, B.; Shao, Y.
A; Rose, D.G.; Mau, B.; Shao, Y.
Science 277, 1453-1462, 1997
A; Title: The complete genome sequence of Escherichia coli K-12.
A; Reference number: A64720; MUID: 97426617; PMID: 9278503
A; Reference number: A64720; MUID: 97426617; PMID: 9278503
A; Residuaes: DNA
A; Residues: 1-311 < BLAFA
A; Residues: 1-311 < BLAFA
A; Cross-references: UNIPARC: UPI000013B368; GB: AE000433; GB: U00096; NID: G1789977; PIDN: AA
A; Reperimental source: strain K-12, substrain MG1655
A; Constrain Constrain K-12, substrain MG1655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 vetispiradiene synthase 2 - Hyoscyamus muticus (fragment)
C;Species: Hyoscyamus muticus
C;Species: C;Species: Species: Hyoscyamus muticus
C;Species: C;Species: Species: Speci
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Cross-references: UNIPROT:Q39980; UNIPARC:UPI00000A52B1; GB:U20190; NID:g763426; PIDN: A;Note: authors translated the codon GAA for residue 181 as Val, and GCA for residue 182)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Glücose-1-phosphate thymidylyltransferase [imported] - Nostoc sp. (strain PCC 7120)
C;Species: Nostoc sp. PCC 7120
C;Species: Nostoc sp. ptc 7120
C;Species: 0. Strain PCC 7120 is a synonym of Anabaena sp. strain PCC 7120
C;Date: 14-Dec-2001 #sequence_revision 14-Dec-2001 #text_change 09-Jul-2004
C;Accession: AC2367
T; Nakamura, Y.; Wolk, C.P.; Kuritz, T.; Sasamoto, S.; Watanabe, A.; Iriguchi
Nakazaki, N.; Shimpo, S.; Sugimoto, M.; Takazawa, M.; Yamada, M.; Yasuda, M.; Tabata, S.
DNA Res. 8, 205-213, 2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 55.6%; Score 5; DB 2; Length 331; Best Local Similarity 100.0%; Pred. No. 1.2e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match 55.6%; Score 5; DB 2; Length 350; Best Local Similarity 100.0%; Pred. No. 1.38+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    C; Superfamily: vetispiradiene synthase 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Dreyy 183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     102 VDDTF 106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4 DIFYY 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Gene: yiaH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AC2367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      hypothetical protein EC84444 [imported] - Bscherichia coli (strain O157:H7, substrain RI
C,Species Escherichia coli
C,Date: 18-Jul-2001 #sequence_revision 18-Jul-2001 #text_change 09-Jul-2004
C;Accession: D91184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Cipecies: Bacherichia coli

Cipate: 18-Jul-2001 #sequence_revision 18-Jul-2001 #text_change 09-Jul-2004

Cipate: 18-Jul-2001 #text_change of the color 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Cross-references: UNIPROT:Q8Z9Y6; UNIPARC:UPI00000DCDAD; GB:AL590842; PIDN:CAC93501.1;
                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 S5.6%; Score 5; DB 2; Length 331; Similarity 100.0%; Pred. No. 1.2e+02; 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                Query Match 55.6%; Score 5; DB 2; Length 330; Best Local Similarity 100.0%; Pred. No. 1.2e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    55.6%; Score 5; DB 2; Length 331; 100.0%; Pred. No. 1.2e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity 100.
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            179 DTFÝÝ 183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   179 brevy 183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             179 DTFYY 183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4 DTFYY 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    œ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4 DTFYY 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4 DIFYY
```

RESULT 48

δ 엄

49 RESULT S47782

ઠે 요

Wed May 17 13:52:23 2006

```
|||||
KVDDT 365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Molecule type: DNA
A; Residues: 1-406 <NAT>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               186 DDTFY 190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  192 DDTFY 196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3 DDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3 DDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Accession: S42346
                                                   361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Gene: trpB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Gene: trpB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 56
JN0319
                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    C; Accession: C83766
R; Takami, H.; Nakasone, K.; Takaki, Y.; Maeno, G.; Sasaki, R.; Masui, N.; Fuji, F.; Hira Nucleic Acida Rea. 28, 4317-4311, 2000
A; Title: Complete genome sequence of the alkaliphilic bacterium Bacillus halodurans and A; Reference number: A8350; MUID: 20512582; PMID: 11058132
A; Accession: C83766
A; Status: preliminary
A; Molecule type: DNA
A; Residues: 1-372 <STO>A; Accession: C8376 <A; Coss-references: UNIPROT: 09KEC2; UNIPARC: UPI00000C3A35; GB: AP001510; GB: BA000004; NID A; Experimental source: strain C-125
C; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
C; Superfamily: A/G-specific adenine glycosylase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    nonstructure protein - rice dwarf virus
C;Species: rice dwarf virus
C;Species: rice dwarf virus
C;Species: 09-Aug-1995 #sequence_revision 19-Oct-1995 #text_change 20-Sep-1999
C;Accession: JC1069
R;Chu, R.Y.; Zhang, X.; Pan, N.S.; Chen, Z.L.
A;Case Sin. 35, 115-120, 1993
A;Title: The CDNA Clound and nucleotide sequence of the gene encoding nonstructure prot
A;Reference number: JC1069
A;Accession: JC1069

A;Title: Complete Genomic Sequence of the Filamentous Nitrogen-fixing Cyanobacterium And
A;Reference number: AB1807; MUID:21595285; PMID:11759840
                                                                    A/Accession: AC2367
A/Status: preliminary
A/Status: preliminary
A/Status: preliminary
A/Residues: 1-758 cKUR>
A/COSS-references: UNIPROT:QSYNSO; UNIPARC:UPI00000CEB4C; GB:BA000019; PIDN:BAB76190.1;
A/Experimental source: strain PCC 7120
C/Genetics:
A/Gene: alr4491
C/Superfamily: mannose-1-phosphate guanylyltransferase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         adenine glycosylase BH0931 [imported] - Bacillus halodurans (strain C-125) C;Species: Bacillus halodurans C;Date: 01-Dec-2000 #sequence_revision 01-Dec-2000 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         55.6%; Score 5; DB 2; Length 358; 100.0%; Pred. No. 1.3e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 55.6%; Score 5; DB 2; Length 372; Best Local Similarity 100.0%; Pred. No. 1.3e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match 55.6%; Score 5; DB 2; Length 372; Best Local Similarity 100.0%; Pred. No. 1.3e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best Local Similarity 100.0%; Matches 5; Conservative 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       147 KVDDT 151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |||||
159 DTFYY 163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4 DIFYY 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
```

ò

```
A; Description: catalyzes conversion of indoleglycerol phosphate and serine to tryptophash A; Description: catalyzes conversion of indoleglycerol pathway; tryptophan biosynthesis
A; Note: cofactor pyridoxal phosphate; last step in pathway
C; Superfamily: tryptophan synthase beta chain; tryptophan synthase beta chain; tryptophan synthase beta chain; tryptophan synthase beta chain homology
C; Keywords: carbon-oxygen lyase; hydro-lyase; phosphoprotein; pyridoxal phosphate; tryptophan synthase beta chain homology cTRPB>
F; 35.3-397 Domain: tryptophan synthase beta chain homology cTRPB>
F; 96, Active site: His #status predicted
F; 97, Bainding site: pyridoxal phosphate (Lys) (covalent) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    acid phosphatase (EC 3.1.3.2) precursor, phosphate-repressible - Penicillium chrysogenum C;Species: Penicillium chrysogenum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Lact
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Cross-references: UNIPROT:P17167; UNIPARC:UP10000137513; EMBL:D00496; NID:g216754; PI
A;Experimental source: isolate RNL7
C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                C;Superfamily: tryptophan synthase beta chain; tryptophan synthase beta chain homology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            of five tryptophan genes of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           C;Species: Lactobacillus casei
C;Date: 31-Mar-1990 #sequence_revision 31-Mar-1990 #text_change 09-Jul-2004
C;Accession: S42346; JS0343
R;Natori, Y.; Kano, Y.; Inamoto, F.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    tryptophan synthase (EC 4.2.1.20) beta chain - Lactobacillus casei
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 55.6%; Score 5; DB 2; Length 406; Best Local Similarity 100.0%; Pred. No. 1.4e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 399;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     J. Biochem. 107, 248-255, 1990
A;Title: Nucleotide sequences and genomic constitution of A;Reference number: S42342; MUID:90299861; PMID:2113923
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 5; DB 2; Ler
Pred. No. 1.4e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 55.6%; Score 5; DB 2
Best Local Similarity 100.0%; Pred. No. 1.4
Matches 5; Conservative 0; Mismatches
```

Gaps

ö

Length 422; Indels

```
A;Accession: B31776
A;Molecule type: DNA
A;Residues: 1-422 <CHA>
A;Residues: 1-622 <CHA>
A;Cross-references: UNIPROT:P08540; UNIPARC:UPI0000168907; GB:X06997; NID:g2856; PIDN:C-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C;Species: Streptomyces coelicolor

C;Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 09-Jul-2004

C;Accession: T36589

R;Oliver, K.; Harris, D.; James, K.D.; Parkhill, J.; Barrell, B.G.; Rajandream, M.A.

submitted to the EMBL Data Library, May 1999

A;Reference number: 221575

A;Reference number: 221575

A;Reference unimper: 221585

A;Residues: preliminary; translated from GB/EMBL/DDBJ

A;Molecule type: DNA

A;Residues: 1-425 < OLL:

A;Cross-references: UNIPROT: Q9X8T4; UNIPARC: UPI0000DB069; EMBL: AL049826; PIDN: CAB42726.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        phosphate permease [imported] - Chlamydophila pneumoniae (strain J138)
C;Species: Chlamydophila pneumoniae, Chlamydia pneumoniae
C;Species: Chlamydophila pneumoniae, Chlamydia pneumoniae
C;Date: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 09-Jul-2004
C;Accession: B86575
R;Shirai, M.; Hirakawa, H.; Kimoto, M.; Tabuchi, M.; Kishi, F.; Ouchi, K.; Shiba, T.; Is.
Nucleic Acids Res. 28, 2311-2314, 2000
A;Title: Comparison of whole genome sequences of chlamydia pneumoniae J138.
A;Reference number: A86491; MUID:20330349; PMID:10871362
A;Accession: B86575
A;Accession: E86575
A;Accession: L426 <STO>
A;Accession: L426 <STO>
A;Accession: Comparison of MUID:20327M4; UNIPARC:UPI00001656B5; GB:BA000008; NID:g8979052; PI
A;Gene: ygo4
            A;Title: Primary structure of the lactose permease gene from the yeast Kluyveromyces la A;Reference number: A92683; MUID:89034156; PMID:3053697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     55.6%; Score 5; DB 2; Length 426;
100.0%; Pred. No. 1.5e+02;
ive 0; Mismatches 0; IndelB
                                                                                                                                                                                                                                                                  DB 2; Lens
(A. 1.46+02;
0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         55.6%; Score 5; DB 2; Le:
100.0%; Pred. No. 1.4e+02;
7ative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   probable membrane protein - Streptomyces coelicolor
                                                                                                                                                                                                                                                                                               Query Match 55.6%; Score 5; DB 2
Best Local Similarity 100.0%; Pred. No. 1.4
Matches 5; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Gene: SCOEDB: SCH24.20c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                293 DDTFY 297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VDDTF 363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      223 TFYYV 227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5 TFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3 DDTFY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       D72049
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     acid phosphatase (EC 3.1.3.2) - Aspergillus ficuum
C;Species: Aspergillus ficuum
C;Accession: JC2389; PC2243
B;Ehrlich, K.C.; Montalbano, B.G.; Mullaney, E.J.; Dischinger Jr., H.C.; Ullah, A.H.J.
B;Ehrlich, K.C.; Montalbano, B.G.; Mullaney, E.J.; Dischinger Jr., H.C.; Ullah, A.H.J.
B;Chile: An acid phosphatase from Aspergillus ficuum has homology to Penicillium chrysog
A;Reference number: JC2389; MUID:95032134; PMID:7945393
A;Molecule type: DNA
A;Residues: 1-417 cEHR1>
A;Cross-references: UNIPARC:UPI0001319B1; GB:L20566; NID:g304094; PID:g304095
A;Accession: PC2243
A;Molecule type: protein
A;Residues: 32-180;204-220;252-297;325-413 cEHR2>
A;Cross-references: UNIPARC:UPI0000179845; UNIPARC:UPI0000179845;
C;Genetics:
A;Gene: AFPhoA
A;Introns: 64,
A;Introns: 64,
C;Genetics:
A;Genetics:
A;Genetics: Glycoprotein; phosphoric monoester hydrolase
F;1122,187,209,218,333,383/Binding site: carbohydrate (Asn) (covalent) #status predicted
F;122,187,209,218,333,383/Binding site: carbohydrate
                                 C;Accession: JN0319; PU0032
R;Haas, H; Redl. B; Friedlin, E.; Stoeffler, G.
Gene 113, 120-133, 1992
A;Title: Isolation and analysis of the Penicillium chrysogenum phoA gene encoding a secr
A;Reference number: JN0319; MUD: 92225342; PMID: 1563629
A;Accession: JN0319
A;Nolecule type: DNA
A;Residues: 1-412 <HAA>
A;Residues: 1-412 <HAA>
A;Rosidues: UNIPROT: P37274; UNIPARC: UP100001319B2; GB: M80366; NID: g169175; PIDN: A;Molecule type: protein
A;Molecule type: C;Genetics: C;Geneti
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A Gene: phoA
A;Introns: 64/3
C;Keywords: gtycoprotein; phosphoric monoester hydrolase
F;1-19/Domain: signal sequence #status predicted <SIG>
F;20-411/Product: acid phosphatase #status predicted <MAT>
F;74,121,186,217,332,343/Binding site: carbohydrate (Asn) (covalent) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 58
B31776
hypothetical protein (LAC12 3' region) - yeast (Kluyveromyces marxianus var. lactis)
C;Species: Kluyveromyces marxianus var. lactis, Candida sphaerica
C;Date: 21-May-1990 #sequence_revision 21-May-1990 #text_change 09-Jul-2004
C;Accession: B31776
R;Chang, Y.D.; Dickson, R.C.
J. Biol. Chem. 263, 16696-16703, 1988
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
C;Date: 04-Dec-1992 #Bequence_revision 04-Dec-1992 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 412;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    h Similarity 100.0%; Score 5; DB 2; Length 417; Similarity 100.0%; Pred. No. 1.4e+02; 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1.4e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
55.6%; Score 5; DB 2
Best Local Similarity 100.0%; Pred. No. 1.4
Matches 5; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               278 DDTFY 282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DDTFY 283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3 DDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3 DDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     279
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ሯ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
```

ö

Gaps

ö

Length 425 0; Indels ö

Gaps

us-10-764-985-2.oli.rpr

ö

```
H81777 Chromoylalanyl-D-glutamyl-2,6-diamino-pimelate-D-alanyl-D-alanine ligase (B UDP-N-acctylmuramoylalanyl-D-glutamyl-2,6-diamino-pimelate-D-alanyl-D-alanine ligase (E C)Species: Neisseria meningitidis (C)Species: Neisseria meningitidis (C)Spate: 05-May-2000 #sequence_revision 05-May-2000 #text_change 05-Oct-2004 C)Accession: H81777 #sequence_revision (C) * Bentley (C) * Churcher, C.; Klee, S.R.; More ; Holroyd, S.; Jagels, K.; Leather, S.; Moule, S.; Mungall, K.; Quail, M.A.; Rajandream Nature 404, 502-506, 2000 A; Holroyd, S.; Mulb:2022556; PMID:10761919
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A,Molecule type: DNA
A,Residues: 1-452 <PAR>
A,Cross-references: UNIPROT:Q9JSZ1; UNIPARC:UPI0000C4DIF; GB:AL162758; GB:AL157959; NI
A,Experimental source: serogroup A, strain Z2491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 65
D81202
UDP-N-acetylmuramoylalanyl-D-glutamyl-2, 6-diaminopimelate-D-alanyl-D-alanyl ligase NMB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 R;Tettelin, H; Saunders, N.J.; Heidelberg, J.; Jeffries, A.C.; Nelson, K.E.; Eisen, J... Hickey, E.K.; Haft, D.H.; Salzberg, S.L.; White, O.; Fleischmann, R.D.; Dougherty, B.A.; H. H.; Qin, H; Vamathevan, J.; Gill, J.; Scarlato, V.; Masignani, V.; Pizza, M. Science 287, 1809-1815, 2000
A;Authors: Grandi, G.; Sun, L.; Smith, H.O.; Fraser, C.M.; Moxon, E.R.; Rappuoli, R.; V A;Title: Complete genome sequence of Neisseria meningitidis serogroup B strain MCS8.
A;Reference number: A81000; MUID:20175755; PMID:10710307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Residues: 11455 <TET>
A;Cross-raferences: UNIPROT:Q9KOY8; UNIPARC:UP100000C449F; GB:AE002397; GB:AE002098; NI·
A;Experimental source: serogroup B, strain MCS8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          C;Species: Neisseria meningitidis
C;Date: 31-Mar-2000 #sequence_revision 31-Mar-2000 #text_change 05-Oct-2004
C;Accession: D81202
                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                     Length 440;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 452;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 55.6%; Score 5; DB 2; Length 455; Best Local Similarity 100.0%; Pred. No. 1.5e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   55.6%; Score 5; DB 2; Le 100.0%; Pred. No. 1.5e+02; ive 0; Mismatches 0;
               55.6%; Score 5; DB 2; Le 100.0%; Pred. No. 1.5e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           C;Superfamily: UDP-N-acetylmuramate-alanine ligase
C;Keywords: ligase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             C; Superfamily: UDP-N-acetylmuramate-alanine ligase
                                 100.0%; Preu. ...
                                       Best_Local Similarity 100.
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                     147 DTFYY 151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  80 KVDDT 84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     84
                                                                                                                                4 DTFYY 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    C;Genetics:
A;Gene: murF; NMA2068
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                80 KVDDT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Molecule type: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Gene: NMB0416
                  Query Match
                                                                                                                                   Š
                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                  C; Accession: D72049
R; Kalman, S; Mitchell, W.; Marathe, R.; Lammel, C.; Fan, J.; Olinger, L.; Grimwood, J.;
Nature Genet. 21, 385-389, 199
A; Title: Comparative genomes of Clamydia pneumoniae and C. trachomatis.
A; Reference number: A72000; MUID: 99206606; PMID: 10192388
A; Accession: D72049
A; Status: preliminary
A; Molecule type: DNA
A; Residues: 1-426 <ARN
A; Cross-references: UNIPROT: Q92744; UNIPARC: UP10000139BC5; GB: AB001650; GB: ABC001363; NID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    C;Accession: G8734
R;Nierman, W.C.; Peldblyum, T.V.; Paulsen, I.T.; Nelson, K.E.; Eisen, J.; Heidelberg, J.
B.; Laub, M.T.; DeBoy, R.T.; DeGson, K.T.; DeGson, K.T.; Shapiro, L.; Venter, D.H.; Kolon
J.; Ermolaeva, M.; White, O.; Salzberg, S.L.; Shapiro, L.; Venter, J.C.; Fraser, C.M.
Proc. Natl. Acad. Sci. U.S.A. 98, 4136-4141, 2001
A;Title: Complete Genome Sequence of Caulobacter crescentus.
A;Reference number: A87249; MUID:21173698; PMID:11259647
A;Status: preliminary
A;Status: Draiminary
A;Molecule type: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pypothetical 51.6K protein - soybean chlorotic mottle virus
C;Species: soybean chlorotic mottle virus
A;Note: host Glycine max (soybean)
C;Bate: 07-Sep-1990 #sequence_revision 07-Sep-1990 #text_change 08-Oct-1999
C;Accession: JS0374
R;Hasegawa, A.; Verver, J.; Shimada, A.; Saito, M.; Goldbach, R.; van Kammen, A.; Miki, Nucleic Acids Res. 17, 9993-10013, 1989
A;Title: The complete sequence of soybean chlorotic mottle virus DNA and the identificat A;Accession: JS0374
A;Molecule type: DNA
A;Molecule type: DNA
A;Residues: 1-440 cHAS>
A;Residues: 1-440 cHAS>
A;Cxoss-references: UNIPARC:UPI000017A805; GB:X15828; NID:g58833; PIDN:CAA33828.1; PID:gC;Keywords: DNA binding; zinc finger
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Residues: 1-435 <STO>
A;Cross-references: UNIPROT:Q9AAB4; UNIPARC:UPI00000C712A; GB:AE005673; NID:g13421911;
C;Genetics:
A;Genetics:
A;Gene: CC0690
C;Superfamily: acyl-CoA dehydrogenase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
losphate permease - Chlamydophila pneumoniae (strain CWL029)
Species: Chlamydophila pneumoniae, Chlamydia pneumoniae
Bate: 23-Apr-1999 #sequence_revision 23-Apr-1999 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                C.Species: Caulobacter crescentus
C.Date: 20-Apr-2001 #sequence_revision 20-Apr-2001 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -CoA dehydrogenase family protein [imported] - Caulobacter crescentus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         55.6%; Score 5; DB 2; Len
100.0%; Pred. No. 1.5e+02;
ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     55.6%; Score 5; DB 2; Le: 100.0%; Pred. No. 1.5e+02; iive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                  A;Experimental source: strain CWL029 C;Genetics: A;Gene: ygo4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity 100.
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               223 TFYYV 227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5 TPYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 62
G87334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠ
```

ö

ö

99

```
R;Rounsley, S.D.; Lin, X.; Ketchum, K.A.; Crosby, M.L.; Brandon, R.C.; Sykes, S.M.; Kau subnitted to the EMBL Data Library, August 1998
A;Description: Arabidopsis thaliana chromosome II BAC T19C21 genomic sequence.
A;Reference number: 214676
                                                                                                                                                                                                                                                                                                          A;Residues: 1-434 <RO2>
A;Residues: 1-434 <RO2>
A;Cross-references: UNIPARC:UPI0000178E16; EMBL:AC004683; NID:g3395421; PID:g3395443
A;Cross-references: Ultivar Columbia
B;Lin, X.; Kaul S.; Rounsley, S.D.; Shea, T.P.; Benito, M.I.; Town, C.D.; Fujii, C.Y.;
R;Lin, X.; Kaul S.; Rounsley, S.D.; Shea, T.P.; Benito, M.I.; Town, C.D.; Fujii, C.Y.;
R;Lin, X.; Kaul S.; Rounsley, S.D.; Shea, T.P.; Benito, M.I.; Town, C.D.; Fujii, C.Y.;
euss, D.; Nierman, W.C.; White, O.; Eisen, J.A.; Salzberg, S.L.; Fraser, C.M.; Venter, Nature 402, 761-768, 1999
A;Title: Sequence and analysis of chromosome 2 of the plant Arabidopsis thaliana.
A;Reference number: A84420; MUID:20083487; PMID:10617197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Cross-references: UNIPARC: UP10000048613; GB: AE002093; NID: 96598436; PIDN: AAC28754.2; (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            C;Accession: JC7179
R;Yoda, K.; Ko, J.H.; Nagamatsu, T.; Lin, Y.; Kaibara, C.; Kawada, T.; Tomishige, N.; Ha Bissci. Biotechnol. Biochem. 64, 142-148, 2000
A;Title: Molecular characterization of a novel yeast cell-wall acid phosphatase cloned f. A;Reference number: JC7179; MUID:20169637; PMID:10705459
A;Accession: JC7179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A,Molecule type: DNA
A,Residues: 1-483 < YOD.
A,Residues: 1-483 < YOD.
A,Experimental source: strain Y-610
C,Comment: This enzyme, highly glycosylated, is a covalently-linked cell-wall protein ha
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C;Keywords: cell wall; endoplasmic reticulum; glycoprotein; phosphoric monoester hydrola
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       acid phosphatase (EC 3.1.3.2) Pho610 - yeast (Kluyveromyces marxianus)
NiAlternate names: Pho610 protein
C.Species: Kluyveromyces marxianus
C.Species: Kluyveromyces marxianus
C.Species: 04-Mar-2000 #sequence_revision 04-Mar-2000 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    hypothetical protein F15G16.210 - Arabidopsis thaliana
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 20-Apr-2000 #sequence_revision 20-Apr-2000 #text_change 09-Jul-2004
C;Accession: T47974
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 2; Length 475;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                55.6%; Score 5; DB 2; Length 483; 100.0%; Pred. No. 1.6e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 55.6%; Score 5; DB 2; Lei
Best Local Similarity 100.0%; Pred. No. 1.6e+02;
Matches 5; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Gene: At2g38290
A;Map posttion: 2
A;Introns: 104/3; 201/3; 297/1; 331/3
C;Superfamily: ammonium transporter nrgA
                                                                                                                                                                         A,Accession: T02516
A,Status: translated from GB/EMBL/DDBJ
A,Molecule type: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-475 <STO>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               331 kvbbr 335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          11111
294 DDTFY 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3 DDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  rganic compounds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Gene: pho610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                      Glycosyltransferase rgpEc - Streptococcus mutans
Cloate: 22-Jan-1999 #sequence revision 22-Jan-1999 #text_change 09-Jul-2004
Cloate: 22-Jan-1999 #sequence revision 22-Jan-1999 #text_change 09-Jul-2004
Cloate: 22-Jan-1999 #sequence revision 22-Jan-1999 #text_change 09-Jul-2004
Cloate: 700090
Rlyamashita, Y.; Tsukioka, Y.; Tomihisa, K.; Nakano, Y.; Koga, T.
A. Bacceriol. 181, 5803-5807, 1998
A. Reference number: 214108
A. Reference number: 214108
A. Accession: T00090
A. Accession: T00090
A. Accession: T00090
A. Residues: Drellinary; translated from GB/EMBL/DDBJ
A. Residues: 1-465 < YaM>
A. Residues: 1-465 < YaM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Cidenting, J.
A, Residues: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 21-Jan-2000
C; Accession: T24724
A; Lightning, J.
Bubmitted to the EMBL Data Library, August 1994
A, Reference number: Z1928
A, Accession: T24724
A, Accession: T24724
A, Residues: preliminary; translated from GB/EMBL/DDBJ
A, Molecule type: DNA
A, Residues: 1-468 < WIL>
A, Residues: 1-468 < WIL>
A, Residues: 1-468 < WIL>
A, Residues: 1-68 = WIL>
A, EMBL: Z36753; PIDN: CAA85338.1; GSPDB: GN00020; A, BAPPER: CSP-T09A5.3
A, Map position: 2
A, Introns: 35/2; 84/3; 126/2; 156/3; 198/1; 237/2; 282/1; 348/3; 391/1; 429/3
C; Superfamily: acetylcholine receptor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       probable ammonium transport protein F16M14.22 - Arabidopsis thaliana
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Species: 12-Feb-1999 #sequence revision 12-Feb-1999 #text_change 09-Jul-2004
C;Accession: T01260; T0Z516; B84803
Submitted to the EMBL Data Library, July 1998
A;Rounaley, S.D.; Kaul, S.; Lin, X.; Ketchum, K.A.; Crosby, M.L.; Brandon, R.C.; Sykes, submitted to the EMBL Data Library, July 1998
A;Reference number: Z14213
A;Reference number: Z14213
A;Reference number: Z14213
A;Residues: translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Molecule type: DNA
A;Residues: 1-475 cROU>
A;Residues: 1-475 cROU>
A;Experimental source: cultivar Columbia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            hypothetical protein T09A5.3 - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 15-Oct.1999 #sequence_revision 15-Oct.1999 #text_change 21-Jan-2000
C;Accession: T24724
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 55.6%; Score 5; DB 2; Length 465; Best Local Similarity 100.0%; Pred. No. 1.6e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 2; Length 468; . 1.6e+02; ches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             h 55.6%; Score 5; DB 2
Similarity 100.0%; Pred. No. 1.6
5; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          183 VDDTF 187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           246 TFYYV 250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5 TFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A, Gene: rgpEc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ŝ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
```

```
A.; Ehrlich, S.D.; Emmerson, P.T.; Entian, K.D.; Errington, J.; Fabret, C.; Ferrari, B. Nature 390, 249-256, 1997

Nature 390, 249-256, 1997

A;Authors: Foulger, D.; Fritz, C.; Fujita, M.; Fujita, Y.; Fuma, S.; Galizzi, A.; Galle iech, J.; Harwood, C.R.; Henaut, A.; Hilbert, H.; Holaappel, S.; Hosono, S.; Hullo, M.F. Koetter, P.; Koningstein, G.; Krogh, S.; Kumano, M.; Kurita, K.; Lapidus, A.; Lardinois A; Authors: Lauber, J.; Lee, S.M.; Levine, A.; Liu, H.; Masuda, S.; Mauee, Y. M.; Ogawa, K.; Ogiwara, A.; Oudega, B.; Park, S.H.; Parro, V.; Pohl, T.M.; Portetell Rieger, M.; Rivolta, C.; Rocha, E.; Roche, B.; Rose, M.; Sakiguchi, T.; Sakowska, A.; Scanlon A;Authors: Schlack, S.; Schroeteer, R.; Scoffone, F.; Sekiguchi, J.; Sekowska, A.; Sero akeuchi, M.; Tamakoshi, A.; Tanaka, T.; Terpetra, P.; Toganoi, J.; Sekowska, A.; Sero A;Authors: Yoshikawa, H.F.; Zumstein, E.; Yoshikawa, H.; Danchin, A.; Tosato, V.; Yoshida, A;Ttle: The complete genome sequence of the Gram-positive bacterium Bacillus subtilis. A;Accession: E65632

A;Accession: E65632

A;Accession: E65632

A;Residues: preliminary; nucleic acid sequence not shown; translation not shown

A;Residues: 1-484 <KINN>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Cross-references: UNIPARC:UPI00006096A; GB:Z99119; GB:AL009126; NID:g2635411; PIDN:C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   C;Superfamily: starch synthase
C;Keywords: glycogen/starch biosynthesis; glycosyltransferase; hexosyltransferase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ammonium transporter XF1844 [imported] - Xylella fastidiosa (strain 9a5c) C;Species: Xylella fastidiosa C;Species: Xylella fastidiosa C;Date: 18-Aug-2000 #sequence_revision 20-Aug-2000 #text_change 09-Jul-2004 C;Accession: A82632
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 5; DB 2; Le
Pred. No. 1.6e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               55.6%; Scor.
100.0%; Pred. No. ...
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A; Experimental source: strain 168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity 100.00
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        bbrry 254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           251 DTFYY 255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3 DDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Accession: AB1584
A; Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4 DTFYY 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Molecule type: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Start codon: TTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Gene: lin1211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Gene: glgA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           C, Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AB1584
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    R;De Haan, M.; Maarse, A.C.; Grivell, L.A.; Mewes, H.W.; Lemcke, K.; Mayer, K.F.X.; Qued
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           hypothetical protein F207.6 - Arabidopsis thaliana C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Accession: D86385
R;Theologis, A.; Ecker, J.R.; Palm, C.J.; Federspiel, N.A.; Kaul, S.; White, O.; Alonso, Chin, C.W.; Chung, M.K.; Conn, L.; Conway, A.B.; Conway, A.R.; Creasy, T.H.; Dewar, K.; ansen, N.F.; Hughes, B.; Huizar, L.
Nature 408, 816-820, 2000
A;Authors: Hunter, J.L.; Y.; Lin, X.; Liu, S.X.; Liu, Z.A.; Luros, J.S.; Khaykin, E.; Kim, C.C., I.J.; J.H.; Li, Y.; Lin, X.; Liu, S.X.; Liu, Z.A.; Luros, J.S.; Maiti, R.; Marziali, Rizzo, M.; Rooney, T.; Rowley, D.; Sakano, H.
A;Authors: Salzberg, S.L.; Schwartz, J.R.; Shinn, P.; Southwick, A.M.; Sun, H.; Tallon, A;Title: Sequence and analysis of chromosome 1 of the plant Arabidopsis.
A;Reference number: A86141; MUID:21016719; PMID:11130712
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Cross-references: UNIPROT:Q9C6M0; UNIPARC:UPI00000AC338; GB:AE005172; NID:g10092330; C;Genetics:
A;Map position: 1
                                                                                                                                                                                                                                                                                                                                                                                                         ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                               A;Status: preliminary
A;Molecule type: DNA
A;Molecule type: DNA
A;Residues: 1-483 - CEH>
A;Cross-references: UNIPROT: Q9M356; UNIPARC: UPI000009E4DF; EMBL: AL132959
A;Experimental source: cultivar Columbia; BAC clone F15G16
                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                             55.6%; Score 5; DB 2; Length 483; 100.0%; Pred. No. 1.6e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 5; DB 2; Le; Pred. No. 1.6e+02; 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      55.6%;
                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity 100...
5, Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity 100.
Matches 5; Conservative
                                                      A; Reference number: 224480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   326 DTFYY 330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |||||
|DTFYY 330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Residues: 1-483 <STO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                    œ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Status: preliminary A;Molecule type: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4 DTFYY 8
                                                                               Accession: T47974
                                                                                                                                                                                                                                                             A; Map position: 3
A; Note: F15G16.210
                                                                                                                                                                                                                                        Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
```

Gaps

ö

Length 484; Indels

```
Cipecacies: Listeria innocua
Cipace: 27-Nov-2001 #sequence_revision 27-Nov-2001 #text_change 09-Jul-2004
Cipace: 27-Nov-2001 #sequence_revision 27-Nov-2001 #text_change 09-Jul-2004
Cipacesion. AB1584
Richaer, P.; Frangeul, L.; Buchrieser, C.; Amend, A.; Baquero, F.; Berche, P.; Bloecke
J.; Dominguez-Bernal, G.; Duchaud, E.; Durand, L.; Dussurget, O.; Entian, K.D.; Fsihi, H
D.; Jones, L.M.; Karst, U.
Science 294, 849-852, 2001
A;Authors: Kreft, J.; Kuhn, M.; Kunst, F.; Kurapkat, G.; Madueno, E.; Maitournam, A.; M
A;Authors: Comparative genomics of Listeria species.
A;Reference number: AB1077; MUID:21537279; PMID:11679669
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Residues: 11486 <CIIA>
A;Cross-references: UNIPROT:Q92CG1; UNIPARC:UP10000CCG4D0; GB:AL592022; PIDN:CAC96442.1
A;Experimental source: strain Clip11262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
hypothetical protein lin1211 [imported] - Listeria innocua (strain Clip11262)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 486;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 2; Ler
5. 1.6e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             100.0%; Pred. ...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     55.6%; Score 5; D
100.0%; Pred. No.
```

```
A; Accession: S49620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Accession: T50745
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          849620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     a
R; anonymous, The Xylella fastidiosa Consortium of the Organization for Nucleotide Sequen Nature 406, 151-157, 2000
A; Title: The genome sequence of the plant pathogen Xylella fastidiosa.
A; Reference number: A82515; MUID:20365717; PMID:10910347
A; Note: for a complete list of authors see reference number A59328 below
A; Reacuse: preliminary
A; Note: for a complete list of authors see reference number A59328 below
A; Status: preliminary
A; Note: for a complete list of authors see reference number A59328 below
A; Residues: Dreliminary
A; Residues: UNIPROT:09PCD7; UNIPARC:UPI00000C2857; GB:AE004005; GB:AE003849; NIL
A; Residues: Dreliminary
A; Residues: Lafain 9a5c
B; Simpson, A.J.G.; Reinach, F.C.; Arruda, P.; Abreu, F.A.; Acencio, M.; Alvarenga, R.; Briones, M.R.S.; Bueno, M.R.P.; Camargo, A.A.; Camargo, L.E.A.; Carraro, D.M.; Carrer, H
B; Simpson, A.J.G.; Belno, M.R.P.; Camargo, A.A.; Franca, S.C.; Franco, D.M.; Carrer, H
B; Simpson, A.J.G.; Bueno, M.R.P.; Kadjima, J.P.; Krieger, J.E.; Kuramae, E.E.; Laigr
C, Di.; Junqueira, M.L.; Kemper, E.L.; Kitajima, J.P.; Krieger, J.E.; Kuramae, E.E.; Laigr
C, Di.; Junqueira, M.L.; Madeira, H.M.F.; Marino, C.L.; Marques, M.V.; Markins, E.M.F.; Madeira, M.R.; Matchors: Marthors: Marthors: M.R.; Matchors: M.R.; M
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Rishe, Q.; Singh, R.K.; Confalonieri, F.; Zivanovic, Y.; Allard, G.; Awayez, M.J.; Chan-Jong, I.; Jeffries, A.C.; Kozera, C.J.; Medina, N.; Peng, X.; Thi-Ngoc, H.P.; Redder, F aubmitted to GenBank, April 2001
A; Description: Sulfolobus solfataricus complete genome.
A; Reference number: A99139
A; Reference number: A99139
A; Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Molecule type: DNA
A; Residues: 1-506 <KUR>
A; Cross-references: UNIPARC: UPI0000647AB; GB: AE006641; NID: g13815879; PIDN: AAK42702.1;
C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  conserved hypothetical protein [imported] - Sulfolobus solfataricus C;Species: Sulfolobus solfataricus C;Date: 24-May-2001 #sequence_revision 24-May-2001 #text_change 28-Jul-2003 C;Accession: G90430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     rz2836
hypothetical protein F57B7.4 - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Species: Laenorhabditis elegans
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 55.6%; Score 5; DB 2; Length 492; Best Local Similarity 100.0%; Pred. No. 1.6e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 2; Length 506; . 1.7e+02; ches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 55.6%; Score 5; DB 2 Best Local Similarity 100.0%; Pred. No. 1.7 Matches 5; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Gene: XF1844
C;Superfamily: ammonium transporter nrgA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Gene: SSO2575
C;Superfamily: glycyl monoaminopeptidase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   393 KVDDT 397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       272 KVDDT 276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 KVDDT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
```

```
C;Accession: T22836

R;Lennard, N.

Bubmitted to the EMBL Data Library, June 1996

A;Reference number: Z19623

A;Accession: T22836

A;Status: preliminary; translated from GB/EMBL/DDBJ

A;Residues: 1-508 <WILL>
A;Residues: 1-508 <WILL>
A;Cross-references: UNIPROT:Q20930; UNIPARC:UPI000017BA38; EMBL:Z74037; PIDN:CAA98493.1

A;Experimental source: clone F57B7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C;Accession: T50745

R;Choudhary, M.; Kaplan, S.

Nucleic Acids Res. 28, 862-867, 2000

A;Title: DNA sequence analysis of the photosynthesis region of Rhodobacter sphaeroides > A;Reference number: Z25222; MUID:20115911; PMID:10648776
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RiLang, H.P.; Cogdell, R.J.; Takaichi, S.; Hunter, C.N. submitted to the EMBL Data Library, November 1994
A; Description: The complete DNA sequence, specific TNS insertion map and gene assignment
A; Reference number: S49619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Residues: 1-518 <LLN>
A;Cross-references: UNIPROT:P54980; UNIPARC:UPI00001284C3; EMBL:X82458; NID:g575405; PII
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Residues: 1-518 <CHO>
A;Cross-references: UNIPROT:P54980; UNIPARC:UPI000016E416; EMBL:AF195122; PIDN:AAF24289
A;Experimental source: strain 2.4.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                phytoene dehydrogenase (BC 1.3...) - Rhodobacter sphaeroides
NyAlternate names: phytoene desaturase
C;Species: Rhodobacter sphaeroides
C;Species: Rhodobacter sphaeroides
C;Date: 05-Mar-1995 #sequence_revision 12-May-1995 #text_change 09-Jul-2004
C;Accession: S;9620.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  phytoene dehydrogenase (EC 1.3.-.-) [imported] - Rhodobacter sphaeroides
C,Species: Rhodobacter sphaeroides
C,Date: 21-Jul-2000 #sequence_revision 21-Jul-2000 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 55.6%; Score 5; DB 2; Length 518; Best Local Similarity 100.0%; Pred. No. 1.7e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               55.6%; Score 5; DB 2; Length 508; 100.0%; Pred. No. 1.7e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                      A; Introns: 45/3; 137/2; 221/2; 256/2; 306/2; 409/3; 451/3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       C;Superfamily: phytoene dehydrogenase C;Keywords: oxidoreductase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Gene: crt1
C;Superfamily: phytoene dehydrogenase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity 100.0
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           175 VDDTF 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             379 DDTPY 383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Status: preliminary A;Molecule type: DNA
                                                                                                                                                                                                                                                                                                                          C;Genetics:
A;Gene: CESP:F57B7.4
A;Map position: 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3 DDTFY
```

```
delayed rectifier channel protein homolog exp-2 - Caenorhabditis elegans
C,Species: Caenorhabditis elegans
C,Species: Caenorhabditis elegans
C,Species: 29-0ct-1999 #sequence_revision 29-0ct-1999 #text_change 09-Jul-2004
C,Accession: T34417
B,Pulton, B,Wohldmann, P.
Submitted to the EMBL Data Library, July 1998
A,Description: The sequence of C. elegans cosmid P12F3.
A,Reference number: Z21521
A,Accession: T34417
A,Accession: T34417
A,Accession: T34417
A,Accession: T34417
A,Residues: preliminary; translated from GB/EMBL/DDBJ
A,Residues: 1-528 cFUL>
A,Residues: 1-528 cFUL>
A,Esidues: 1-528 cFUL>
A,Experimental source: strain Bristol N2; clone F12F3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AEC transporter, probable SS02468 [imported] - Sulfolobus solfataricus C;Species: Sulfolobus solfataricus C;Spacession: F90418 R;She, Q;Singh, R.K.; Confalonieri, F.; Zivanovic, Y.; Allard, G.; Awayez, M.J.; Chan Jong, I.; Jeffrises, A.C.; Kozera, C.J.; Medina, N.; Peng, X.; Thi-Ngoc, H.P.; Redder, arrett, R.A.; Ragan, M.A.; Sensen, C.W.; Van der Oost, J. Thi-Ngoc, H.P.; Redder, submitted to GenBank, April 2001 R; Paril 2001 R; Pari
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-535 <KUR>
A;Crose-references: UNIPROT:Q97VY5; UNIPARC:UPI000006475A; GB:AE006641; NID:g13815769;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            probable membrane protein YMR279c - yeast (Saccharomyces cerevisiae)
NiAlternate names: hypothetical protein YM8021.05c
C;Species: Saccharomyces cerevisiae
C;Species: O8-Jul-1995 #sequence_revision 01-Sep-1995 #text_change 09-Jul-2004
C;Accession: S54586
R;Pearson. D: Rowman, S.
Ribearson. D: Bowman, S.
A;Reference number: S54582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    55.6%; Score 5; DB 2; Length 528; 100.0%; Pred. No. 1.7e+02; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 55.6%; Score 5; DB 2; Length 535; Best Local Similarity 100.0%; Pred. No. 1.7e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Introns: 42/2; 135/3; 173/3; 213/3; 271/3; 469/1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity 100.0
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Gene: exp-2; CESP:F12F3.1
A;Map position: 5
                     378 DDTFY 382
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              213 KVDDT 217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ||||||
399 TFYYV 403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5 TFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Accession: S54586
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     phytoene dehydrogenase (EC 1.3.-.-) - Rhodobacter capsulatus
N.Alternate names: phytoene desaturase
C;Species: Rhodobacter capsulatus
C;Species: Rhodobacter capsulatus
C;Accession: A32617; 804402
R;Bartley, G.E.; Scolnik, P.A.
J. Biol. Chem. 264, 13109-13113, 1989
A;Title: Carotenoid biosynthesis in photosynthetic bacteria. Genetic characterization of A;Reference number: A32617; WUID:89327279; PMID:2546948
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C;Accession: A56118
R;Back, K.; Chappell, J.
B;Back, C;Accession: 1700, 7375-7381, 1995
A;Title: Cloning and bacterial expression of a sesquiterpene cyclase from Hyoscyamus mut A;Reference number: A56118; MUID:95221394; PMID:7706281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A.Accession: S04402
A.Molecule type: DNA
A.Mote: translation of codons 1-33 is not given
A.Mote: translation of codons 1-33 is not given
A.Mote: the authors translated the codon GTG for residue 34 as Met
C.Genetics:
A.Genetics:
A.Genetics:
C.Genetics:
C.Genetics:
C.Genetics:
C.Genetics:
C.Genetics:
A.Genetics:
A.Genetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-520 «BAC»
A;Cross-references: UNIPROT:039978; UNIPARC:UPI00000AlDF5; GB:U20188; NID:g763422; PIDN:
C;Superfamily: vetispiradiene synthase 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Cross-references: UNIPROT: P17054; UNIPARC: UP100001284C2; GB:J04969; NID: 9340554; PIDN: R;Armstrong, G.A.; Alberti, M.; Leach, F.; Hearst, J.E.
Mol. Gen. Genet. 216, 254-268; 1989
A;Title: Nucleotide sequence, organization, and nature of the protein products of the cap. A;Reference number: S04401; MUD: 89313663; PMID: 2747617
                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              vetispiradiene synthase 1 - Hyoscyamus muticus (fragment)
C;Species: Hyoscyamus muticus
C;Date: 19-Oct-1995 #sequence_revision 19-Oct-1995 #text_change 09-Jul-2004
                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 55.6%; Score 5; DB 2; Length 524; Best Local Similarity 100.0%; Pred. No. 1.7e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 55.6%; Score 5; DB 2; Length 520; Best Local Similarity 100.0%; Pred. No. 1.7e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                   Length 518;
                                                                                                  Query Match
55.6%; Score 5; DB 2; Ler
Best Local Similarity 100.0%; Pred. No. 1.7e+02;
Matches 5; Conservative 0; Mismatches 0;
C; Keywords: oxidoreductase
                                                                                                                                                                                                                                                                                                                                                                                11111
379 DDTFY 383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              272 VDDTF 276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Molecule type: DNA
A; Residues: 1-524 <BAR>
                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                           ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              윱
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
```

Gaps

ö

```
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Molecule type: LNA
A;Residues: 1-547 <RES>
A;Cross-references: UNIPROT:P45754; UNIPARC:UP1000012BC18; EMBL:X81473; NID:g551215; PI:C;Superfamily: Aeromonas hydrophila exeA protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    C'Species: Neurospora crassa
C'Date: 21-Jul-2000 #sequence_revision 21-Jul-2000 #text_change 09-Jul-2004
C;Accession: T51035
R;Schulte, U.; Aign, V.; Hoheisel, J.; Brandt, P.; Fartmann, B.; Holland, R.; Nyakatura,
submitted to the Protein Sequence Database, July 2000
A;Reference number: Z25286
A;Accession: T51035
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-548 <SCH>
A;Cross-references: UNIPROT:Q9P3K6; UNIPARC:UPI00006AF57; EMBL:AL389900; GSPDB:GN00116,
A;Experimental source: BAC clone B15120; strain OR74A
C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Residues: 1-550 <FAC>
A;Cross-references: UNIPROT:Q40577; UNIPARC:UPI000014C8BF; EMBL:L04680; NID:g170342; PID
A;Experimental source: strain NK326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Description: mediates the conversion of the isoprenoid intermediate farnesyl diphospha
C; Superfamily: vetispiradiene synthase 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5-epi-aristolochene synthase - common tobacco
N;Alernate names: sesquiterpene cyclase
C;Species: Nicotiana tabacum (common tobacco)
C;Date: 24-Mar-1999 #sequence_revision 24-Mar-1999 #text_change 09-Jul-2004
C;Accession: T03714
K;Facchin; P. J.; Chappell, J.
Proc. Natl. Acad. Sci. U.S.A. 89, 11088-11092, 1992
A;Title: Gene family for an elicitor-induced sesquiterpene cyclase in tobacco. A;Reference number: Z15024; MUID:93066390; PMID:1438319
A;Accession: T03714
A;Status: preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                            Length 547;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 548;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 55.6%; Score 5; DB 2; Length 550; Best Local Similarity 100.0%; Pred. No. 1.8e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                   0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             hypothetical protein B15I20.50 [imported] - Neurospora crassa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0; Indels
                                                                                                                                                                                                                                                            Query Match 55.6%; Score 5; DB 2; Le Best Local Similarity 100.0%; Pred. No. 1.8e+02; Matches 5; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        55.6%; Score 5; DB 2; Ler
100.0%; Pred. No. 1.8e+02;
iive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Introns: 37/3; 126/1; 251/2; 324/2; 370/3; 452/3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity 100.
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                314 KVDDT 318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     252 TFYYV 256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  302 VDDTF 306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Gene: NCSP:B15120.50
                                                                                                                                                                                                                                                                                                                                                                                                                                      1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5 TFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Map position: 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                            A; Cross-references: UNIPROT: Q03263; UNIPARC: UP1000013B942; EMBL: Z49704; NID: g825540; PLC G; Genetics: strain AB972
C; Genetics: A; Gene: Strain AB972
A; Experimental source: strain AB972
A; Gene: MIDS: YMR279c
A; Cross-references: SGD: S0004892
C; Superfamily: aminotriazole resistance protein YML116w
C; Superfamily: aminotriazole resistance prodicted <TM1>
F; 109-125 / Domain: transmembrane #status predicted <TM3>
F; 139-155 / Domain: transmembrane #status predicted <TM3>
F; 249 / Domain: transmembrane #status predicted <TM4>
F; 268-314 / Domain: transmembrane #status predicted <TM5>
F; 289-314 / Domain: transmembrane #status predicted <TM7>
F; 315-35 / Domain: transmembrane #status predicted <TM7>
F; 315-35 / Domain: transmembrane #status predicted <TM7>
F; 315-35 / Domain: transmembrane #status predicted <TM9>
F; 315-35 / Domain: transmembrane #status predicted <TM9>
F; 315-35 / Domain: transmembrane #status predicted <TM10>
F; 315-45 / Doma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              C;Species: Lycopersicon esculentum (tomato)
C;Date: 05-Nov-1999 #sequence_revision 05-Nov-1999 #text_change 09-Jul-2004
C;Date: 05-Nov-1999 #sequence_revision 05-Nov-1999 #text_change 09-Jul-2004
C;Accession: T06264
R;Bischoff, M.
submitted to the EMBL Data Library, November 1997
A;Description: Lycopersicon esculentum dehydroquinate dehydratase/shikimate:NADP oxidore
A;Reference number: 215575
A;Accession: T06264
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-545 ABLS
A;Cross-references: UNIPROT:065917; UNIPARC:UPI00000A2F9F; EMBL:AF033194; NID:g3169882;
A;Cross-references: UNIPROT:065917; UNIPARC:UPi00000A2F9F; EMBL:AF033194; NID:g3169882;
C;Superfamental Bource: strain UG28b
C;Superfamily: 3-dehydroquinate dehydratase / shikimate dehydrogenase; 3-dehydroquinate
C;Keywords: carbon-oxygen lyase; hydro-lyase; oxidoreductase
F;24-254/Domain: 3-dehydroquinate dehydratase homology <DCD>
F;324-529/Domain: shikimate dehydrogenase homology <SKD>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               exeA protein - Aeromonas hydrophila
C;Species: Aeromonas hydrophila
C;Species: Je-Jul-1996 #sequence_revision 19-Jul-1996 #text_change 09-Jul-2004
C;Accession: 139593
R;Jahagirdar, R.; Howard, S.P.
J; Bacteriol. 176, 6819-6836, 1994
A;Title: Isolation and characterization of a second exe operon required for extracellula
A;Reference number: 139593; MUID:95050248; PMID:7961440
A;Accession: 139593
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -dehydroquinate dehydratase (EC 4.2.1.10) / shikimate 5-dehydrogenase (EC 1.1.1.25) - t iContains: 3-dehydroquinate dehydratase (EC 4.2.1.10); shikimate 5-dehydrogenase (EC 1.5Seciese: Lycopersicon esculentum (tomato)

3. Seciese: 05-Nov-1999 #sequence_revision 05-Nov-1999 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  55.6%; Score 5; DB 2; Length 545; 100.0%; Pred. No. 1.8e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 540;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 55.6%; Score 5; DB 2; Length 540; Best Local Similarity 100.0%; Pred. No. 1.7e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
Matches 5; Conserv
                                           A;Residues: 1-540 <PEA>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            353 TFYYY 357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           470 KVDDT 474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5 TFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 85
139593
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
```

ö

Gaps

ö

ö

Gaps

; 0

```
A;Molecule type: DNA
A;Residues: 1-574 <ANT>
A;Cross-references: UNIPROT:057263; UNIPARC:UPI0000F7EC4; EMBL:U94848; PIDN:AAB96556.1
A;Cross-references: strain Ankara
C;Genetics:
A;Note: MVA186R
                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 91
JO1811
B178 protein - vaccinia virus (strain WR)
C;Species: vaccinia virus
C;Species: vaccinia virus
C;Date: 30-Sep-1993 #sequence_revision 30-Sep-1993 #text_change 09-Jul-2004
C;Accession: JO1811
R;Smith, G.L.; Chan, Y.S.; Howard, S.T.
J. Gen. Virol. 72, 1349-1376, 1991
A;Titles: Nucleoride sequence of 42kbp of vaccinia virus strain WR from near the right in A;Accession: JO1811
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Molecule type: DNA
A;Residues: 1-574 <SML>
A;Cross-references: UNIPROT:Q01222; UNIPARC:UPI000013822A; DDBJ:D11079; NID:g222717; PI
                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A36857
B19R protein - variola virus
B19R protein - variola virus
C;Species: variola virus
C;Date: 30-Sep-1993 #sequence_revision 30-Sep-1993 #text_change 09-Jul-2004
C;Accession: A36857; S46876
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BIBR protein - vaccinia virus (strain Copenhagen)
C;Species: vaccinia virus
A;Note: host Homo sapiens (man)
C;Date: 09-Nov-1990 #sequence_revision 09-Nov-1990 #text_change 09-Jul-2004
C;Accession: H42527
R;Johnson, G.P.
Submitted to GenBank, June 1990
A;Reference number: A33172
                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                Length 574;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     55.6%; Score 5; DB 2; Length 574; 100.0%; Pred. No. 1.8e+02; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ouery Match 55.6%; Score 5; DB 2; Length 574; Best Local Similarity 100.0%; Pred. No. 1.8e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                   0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Cross-references: UNIPROT: P21076; UNIPARC: UPI0000138229
                                                                                                                                                                                                             55.6%; Score 5; DB 2; Ler 100.0%; Pred. No. 1.8e+02; Live 0; Mismatches 0;
A;Status: preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity 100.0
Matches 5; Conservative
                                                                                                                                                                                                        Query Match
Best Local Similarity 100.
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                  |||||
424 DDTFY 428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-574 <JOH>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  424 DDTFY 428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      424 DDTFY 428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3 DDTFY 7
                                                                                                                                                                                                                                                                                                                        3 DDTFY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3 DDTFY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 92
H42527
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 93
                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                        ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         N.Alternate names: gene 2 protein (gp2)
C.Species: phage PZA
A.Note: host Bacillus subtilis
C.Date: 30-Sep-1987 #sequence_revision 30-Sep-1987 #text_change 31-Dec-2004
C.Accession: D24528
R.Pacces, V.; Vlcek, C.; Urbanek, P.; Hostomsky, Z.
Gene 38, 45-56, 1985
A.Title: Nucleotide sequence of the major early region of Bacillus subtilis phage PZA, a
A.Title: Nucleotide sequence of the major early region of Bacillus subtilis phage PZA, a
A.Reference number: A91538; MUD:86056991; PMID:3934048
A.Residues: 1-572 cPAC>
A.Residues: 1-572 cPAC>
A.Cross-references: UNIPROT:P06950; UNIPARC:UPI00001297E3; GB:M1813; GB:M13904; GB:M139
C.Genetics:
A.Genetics:
A.Genetics:
A.Genetics:
A.Genetics:
A.Genetics:
C.Superfamily: DNA polymerase, Bacillus phage type
C.Keywords: DNA binding; early protein; nucleotidyltransferase
                                                                                                                                                             C;Accession: D90250
R;She, Q.; Singh, R.K.; Confalonieri, P.; Zivanovic, Y.; Allard, G.; Awayez, M.J.; Chan-Jong, I.; Jeffries, A.C.; Kozera, C.J.; Medina, N.; Peng, X.; Thi-Ngoc, H.P.; Redder, F arreir, R.A.; Ragan, M.A.; Sensen, C.W.; Van der Oost, J.
submitted to GenBank, April 2001
A;Description: Sulfolobus solfataricus complete genome.
A;Reference number: A99139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        68K ankyrin-like protein - vaccinia virus (strain Ankara)
C;Species: vaccinia virus
A;Variety: strain Ankara
C;Date: 21-Jan-2000 #sequence_revision 21-Jan-2000 #text_change 09-Jul-2004
C;Accession: T37452
R;Antoine, G.; Scheiflinger, F.; Falkner, F.G.; Dorner, F.
R;Antoine, G. Scheiflinger, P.; Falkner, F.G.; Dorner, F.
A;Description: The complete genomic sequence of the Modified Vaccinia Ankara (MVA) strain
A;Reference number: 220877
A;Accession: T37452
                                                                                                                                                                                                                                                                                                                                                                                                                A;Molecule type: DNA
A;Residues: 1-566 «KUR»
A;Cross-references: UNIPROT:097ZD3; UNIPARC:UPI0000064308; GB:AE006641; NID:913814171;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                    glycogen synthase [imported] - Sulfolobus solfataricus
C;Species: Sulfolobus solfataricus
C;Date: 24-May-2001 #sequence_revision 24-May-2001 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   55.6%; Score 5; DB 2; Length 566; 100.0%; Pred. No. 1.8e+02; Ative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 55.6%; Score 5; DB 1; Length 572; Best Local Similarity 100.0%; Pred. No. 1.8e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DNA-directed DNA polymerase (EC 2.7.7.7) - phage PZA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity 100.
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |||||
516 KVDDT 520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           11111
565 VDDTF 569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                            Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Gene: SS00987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
```

Gaps

ö

```
3-dehydroquinate dehydratase (EC 4.2.1.10) / shikimate 5-dehydrogenase (EC 1.1.1.25) pre N;Contains: 3-dehydroquinate dehydratase (EC 4.2.1.10); shikimate 5-dehydrogenase (EC 1. C;Species: Nicctiana tabacum (common tobacco)
C;Date: 19-Mar-1997 #sequence_revision 29-Aug-1997 #text_change 09-Jul-2004
C;Accession: 846210; 877973
R;Bonner, C.A.; Jensen, R.A.
R;Bonner, C.A.; Jensen, R.A.
A;Title: Cloning of cDNA encoding the bifunctional dehydroquinase shikimate dehydrogenas A;Reference number: 846210; MUD:94347087; PMID:80679955
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A,Cross-references: UNIPROT:Q42947; UNIPARC:UPI0000A5896; GB:L32794; NID:g535770; PIDN:
A,Experimental source: strain SR1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Molecule type: DNA
A; Residues: 1-575 < YOS>
A; Cross-references: UNIPARC: UDI00001297E1; GB:V01155; GB:J02478; ]
A; Cross-references: UNIPAROT: P03680; UNIPARC: UDI00001297E1; GB:V01155; GB:J02478; ]
A; Note: the authors report the amino acid composition of the translated protein; B; Escarmis, C.; Salas, M.
Nucleic Acids Res. 10, 5785-5798, 1982
A; Title: Nucleotide sequence of the early genes 3 and 4 of bacteriophage psi29.
A; Reference number: A93439; MUD:83064518; PMID:6292852
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Map position: 16-6
C;Superfamily: DNA polymerase, Bacillus phage type
C;Keywords: DNA binding; DNA replication; early protein; nucleotidyltransferase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NyAlternate names: early protein gp2
C;Species: phage phi-29
A;Note: host Bacillus subtilis
C;Date: 15-Nov-1984 #sequence revision 15-Nov-1984 #text_change 31-Dec-2004
C;Accession: A04282; B93439; $11668; $11669
R;Yoshikawa, H; Ito, J.
Gene 17, 323-335, 1982
A;Title: Nucleotide sequence of the major early region of bacteriophage phi29.
A;Reference number: A91493; MUID:82262795; PMID:6809534
                                      Length 574;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 55.6%; Score 5; DB 1; Length 575; Best Local Similarity 100.0%; Pred. No. 1.8e+02; Matches 5; Conservative 0; Mismatches 0; Indel8
                                                                                                                   0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                    - phage phi-29
                                      55.6%; Score 5; DB 2; Le: 100:0%; Pred. No. 1.8e+02; tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                       RESULT 96
ERBP29
DNA-directed DNA polymerase (EC 2.7.7.7)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Molecule type: DNA
A;Residues: 1-85 <ESC>
A;Cross-treferences: UNIPARC:UP10000174B74
C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Cross-references: UNIPARC: UPI0000176055
Query Match
Best Local Similarity 100.v..
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Accession: A04282
A;Status: translation not shown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Molecule type: protein A; Residues: 24-30 <JEN>
                                                                                                                                                                                                                                                              424 DDTFY 428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |||||
568 VDDTF 572
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Molecule type: mRNA
A; Residues: 1-579 < BON
                                                                                                                                                                                     3 DDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A, Accession: S77973
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Genome: nuclear
                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
           DRR protein - variola minor virus (strain Garcia-1966)

DRR protein - variola minor virus (strain Garcia-1966)

C;Species: variola minor virus (strain Garcia-1966)

C;Species: variola minor virus (strain Garcia-1966)

C;Species: variola minor virus (strain Carlor)

C;Accession: C72174

R;ShChelkunov, S.N.; Totmenin, A.V.; Gutorov, V.V.; Safronov, P.F.; Massung, R.F.; Lopar submitted to GenBank, March 1998

A;Description: Analysis of the complete coding sequence of DNA of alastrim variola minor A;Accession: C72174

A;Accession: C72174

A;Accession: C72174

A;Accession: T574 < SHC>
A;Accession: GARC>
A;Accession: GA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                hypothetical protein B16R - variola major virus
C;Species: variola major virus
C;Species: variola major virus
C;Species: variola major virus
C;Date: 22-Oct-1999 #sequence_revision 22-Oct-1999 #text_change 09-Jul-2004
C;Accession: T28615
R;Massung, R.F.; Esposito, J.J.; Liu, L.I.; Qi, J.; Utterback, T.R.; Knight, J.C.; Aubin Nature 366, 748-751, 1993
A;Title: Potential virulence determinants in terminal regions of variola smallpox virus
A;Reference number: Z20488; MUID:94088747; PMID:8264798
A;Accession: T28615
A;Status: preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A,Molecule type: DNA
A,Residues: 1-574 <MAS>
A;Cross-references: UNIPROT:P33824; UNIPARC:UPI000013822B; EMBL:L22579; NID:g623595; PID
A;Experimental source: strain Bangladesh 1975
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 55.6%; Score 5; DB 2; Length 574; Best Local Similarity 100.0%; Pred. No. 1.8e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    55.6%; Score 5; DB 2; Length 574; 100.0%; Pred. No. 1.8e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 55.6
Best Local Similarity 100.
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              424 DDTFY 428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            424 DDTFY 428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3 DDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3 DDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Gene: D8R
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 94
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 95
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠ
```

NID:g15 the rep

ö

. 0

```
ACOTAL

ACOTAL

ACOTAL

ACOTAL

Oligopeptidase B (BC 3.4.21.83) [imported] - Salmonella enterica subsp. enterica serova
Cispecies: Salmonella enterica subsp. enterica serova Typhi
A;Note: this species has also been called Salmonella typhi
C;Date: 09-Nov-2001 #sequence_revision 09-Nov-2001 #text_change 18-Nov-2002
C;Accession: ACOT41

R;Parkhill, J; Dougan, G; James, K.D.; Thomson, N.R.; Pickard, D.; Wain, J.; Churcher
th, T.; Connerton, P.; Cronin, A.; Davis, P.; Davies, R.M.; Dowd, L.; White, N.; Farrar
S; Moule, S; O'Gaora, P.
Nature 413, 848-852, 2001
A;Authors: Parry, C.; Quail, M.; Rutherford, K.; Simmonds, M.; Skelton, J.; Stevens, K.
A;Authors: Parry, C.; Quail, M.; Rutherford, K.; Simmonds, M.; Skelton, J.; Stevens, K.
A;Accession: ACOT41
A;Accession: ACOT41
A;Accession: ACOT41
A;Residues: 1-683 < PAR>
A;Residues: 1-683 < PAR>
A;Coss-references: UNIPARC:UPI000059D05; GB:AL513382; PIDN:CAD05630.1; PID:g16503127;
C;Genetics:
A;Genetics:
C;Superfamily: prolyl oligopeptidase
C;Keywords: hydrolase; serine proteinase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       C;Species: Yersinia pestis
C;Date: 02-Nov-2001 #sequence_revision 02-Nov-2001 #text_change 09-Jul-2004
C;Date: 02-Nov-2001
C;Accession: ABO17
R;Parkhill, J; Wren, B.W.; Thomson, N.R.; Titball, R.W.; Holden, M.T.G.; Prentice, M.B
deno-Tarraga, A.M.; Chillingworth, T.; Cronin, A.; Davies, R.M.; Davis, P.; Dougan, G.;
il, M.; Rubherford, K.; Simmonds, M.; Skelton, J.; Stevens, K.; Whitehead, S.; Barrell,
Nature 413, 523-527, 2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A, Cross-references: UNIPROT: Q8ZFD4; UNIPARC: UP100000CD849; GB: AL590842; PIDN: CAC90598.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   proteinase II [imported] - Escherichia coli (strain 0157:H7, substrain RIMD 0509952)
C;Species: Bscherichia coli
C;Date: 18-Jul-2001 #sequence_revision 18-Jul-2001 #text_change 09-Jul-2004
C;Accession: C90948
R;Hayashi, T.; Makino, K.; Ohnishi, M.; Kurokawa, K.; Ishii, K.; Yokoyama, K.; Han, C.G gasawara, N.; Yasunaga, T.; Kuhara, S.; Shiba, T.; Hattori, M.; Shinagawa, H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Title: Genome sequence of Yersinia pestis, the causative agent of plague. A;Reference number: AB0001; MUID:21470413; PMID:11586360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AB0217
oligopeptidase B (EC 3.4.21.83) [imported] - Yersinia pestis (strain CO92)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 683;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        55.6%; Score 5; DB 2; Length 683; 100.0%; Pred. No. 2.1e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 55.6%; Score 5; DB 2; Ler
Best Local Similarity 100.0%; Pred. No. 2.1e+02;
Matches 5; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               C;Genetics:
A;Gene: ptrB
C;Superfamily: prolyl oligopeptidase
C;Keywords: hydrolase; serine proteinase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity 100.
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           221 DDTFY 225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-683 <KUR>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              221 DDTFY 225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3 DDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      C90948
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
C; Superfamily: 3-dehydroquinate dehydratase / shikimate dehydrogenase; 3-dehydroquinate (Z; Keywords: carbon-oxygen lyase; hydro-lyase; oxidoreductase; plastid P:1-23/Domain: transit peptide (Plastid) (fragment) #status predicted <TMP> P:24-579/Product: 3-dehydroquinate dehydratase / shikimate 5-dehydrogenase #status exper P:34-245/Domain: 3-dehydroquinate dehydratase homology <DD> P:352-570/Domain: shikimate dehydrogenase homology <SKD>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                C;Species: Rattus norregicus (Norway rat)
C;Accession: 075721
C;Accession: 075721
R;Pevanor, J; Hau, S.C.; Hyde, P.S.; Scheller, R.H.
R;Pevanor, J; Hau, S.C.; Hyde, P.S.; Scheller, R.H.
Gene 183, 7-14, 1996
A;Title: Mammalian homologues of yeast vacuolar protein sorting (vps) genes implicated if A;Reference number: JCS720; MUID:97149272; PMID:8996080
A;Reference number: JCS721
A;Accession: JCS721
A;Accession: JCS721
A;Accession: JCS721
A;Residues: 1-617 < PEV>
A;Residues: 1-617 < PEV>
A;Residues: 1-617 < PEV>
A;Cross-references: UNIPROT:Q63616; UNIPARC:UPI0000138BFF; GB:U35245; NID:g1477469; PIDN
C;Comment: This protein is involved in vasicular trafficking between the Golgi and lysos
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claccesion: T45864

R.Bargues, M.; Collado, M.C.; Navarro, P.; Terol, J.; Perez-Alonso, M.; Mewes, H.W.; May submitted to the Protein Sequence Database, December 1999
A.Reference number: Z23007
A.Reference number: Z23007
A.Reference number: Z23007
A.Reference number: DAA
A.Status: preliminary
A.Molecule type: DNA
A.Residues: 1-628 -BAR>
A.Residues: 1-628 -BAR>
A.Residues: UNIPARC: UNIPARC: UPIO0000A6AB3; EMBL: AL132978
A.Residues: 1-628 -BAR>
A.Residues: 1-6
                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           probable tyrosine phosphatase - Arabidopsis thaliana
N;Alternate names: protein F3A4.190
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 04-Feb-2000 #sequence_revision 04-Feb-2000 #text_change 09-Jul-2004
C;Accession: T45864
                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                   DB 2; Le...
40. 1.8e+02;
0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ouery Match 55.6%; Score 5; DB 2; Length 617; Best Local Similarity 100.0%; Pred. No. 1.9e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               h 55.6%; Score 5; DB 2; Length 628; Similarity 100.0%; Pred. No. 1.9e+02; 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                        55.6%; Score 5; DB 2
100.0%; Pred. No. 1.8
ive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   vacuolar protein sorting protein 33b - rat
                                                                                                                                                                                                                                                                                                                                                                            5; Conservative
                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              461 KVDDT 465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 251 VDDTF 255
                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          57 KVDDT 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 KVDDT
                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
```

Gaps

```
A;Map position: circular chromosome
C;Superfamily: Sensor diguanymate cyclase/c-di-GMP phosphodiesterase with MHYT sensor dc
                                                                                                                           Query Match 55.6%; Score 5; DB 2; Length 696; Best Local Similarity 100.0%; Pred. No. 2.1e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        B32571
                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               procedures II [imported] - Becherichia coli (strain O157:H7, substrain EDL933)
C;Species: Bscherichia coli
C;Species: 16-Peb-2001 #sequence_revision 16-Peb-2001 #text_change 09-Jul-2004
C;Accession: GB5796
R;Perna, N.T.; Plunkett III, G; Burland, V; Mau, B; Glasner, J.D.; Rose, D.J.; Mayhew, Iller, L.; Grotbeck, E.J.; Davis, N.W.; Lim, A.; Dimalanta, B.; Potamousis, K.; Apodaca, Nature 409, 529-533, 2001
A;Title: Genome sequence of enterohemorrhagic Escherichia coli O157:H7.
A;Recession: GB5480; MUD:21074935; PMID:11206551
A;Recession: GB5480; MUD:21074935; PMID:11206551
A;Recession: GB5480
A;Residues: 1-686 & STO>
A;Cross-references: UNIPROT:QBXCK4; UNIPARC:UPI0000000477; GB:AE005174; NID:g12515898; E
A;Experimental source: strain O157:H7, substrain EDL933
C;Genetics:
A;Gene: ptrB
C;Superfamily: prolyl oligopeptidase
A,Title: Complete genome sequence of enterohemorrhagic Escherichia coli O157:H7 and genc A,Reference number: A99629; MUID:21156231; PMID:11258796
A,Accession: C90948
A,Accession: C90948
A,Statuse: preliminary
A,Holecule type: DNA
A,Residues: 1-686 <HAY>
A,Cross references: UNIPROT:QNXCK4; UNIPARC:UPIO000000477; GB:BA000007; PIDN:BAB35978.1;
A,Experimental source: strain O157:H7, substrain RIMD 0509952
C,Genetics:
A,Gene: EC2555
C,Superfamily: prolyl oligopeptidase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 R; Wood, D.W.; Setubal, J.C.; Kaul, R.; Monke, D.; Chen, L.; Wood, G.E.; Chen, Y.; Woo, I erage, G.; Gillet, W.; Grant, C.; Guenthner, D.; Kutyavin, T.; Levy, R.; Li, M.; McClell Science 294, 2317-2323, 2001
A; Authors: Yoo, H.; Tao, Y.; Biddle, P.; Jung, M.; Krespan, W.; Perry, M.; Gordon-Kamm,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Residues: 1-696 <KUR>
A;Cross-references: UNIPROT:Q8UDA1; UNIPARC:UPI0000D1E16; GB:AE008688; PIDN:AAL43215.1;
A;Experimental source: strain C58 (Dupont)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ster, E.W.
A, Title: The Genome of the Natural Genetic Engineer Agrobacterium tumefaciens C58.
A, Reference number: AB2577; WUID:21608550; PMID:11743193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GGDEF family protein [imported] - Agrobacterium tumefaciens (strain C58, Dupont) C;Species: Agrobacterium tumefaciens C;Species: Agrobacterium tumefaciens C;Date: 11-Jan-2002 #sequence_revision 11-Jan-2002 #text_change 16-Aug-2004 C;Accession: AI2849
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 55.6%; Score 5; DB 2; Length 686; Best Local Similarity 100.0%; Pred. No. 2.1e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 55.6%; Score 5; DB 2; Length 686; Best Local Similarity 100.0%; Pred. No. 2.1e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                185 TFYYV 189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               185 TFYYV 189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5 TFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5 TFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Status: preliminary Molecule type: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Accession: AI2849
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gene: Atu2226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ద
```

```
G97626

hypothetical protein AGR_C 4046 [imported] - Agrobacterium tumefaciens (strain C58, Cere hypothetical protein AGR_C 4046 [imported] - Agrobacterium tumefaciens

c; Species: Agrobacterium tumefaciens
c; Date: 30-Sep-2001 #sequence revision 30-Sep-2001 #text_change 05-Oct-2004
C; Accession: G97626
R; Goodner, B.; Hinkle, G.; Gattung, S.; Miller, N.; Blanchard, M.; Qurollo, B.; Goldman, A.; Liu, F.; Wollam, C.; Allinger, M.; Doughty, D.; Scott, C.; Lappas, C.; Markelz, B.; Science 294, 2323-2328, 2001
A; Title: Genome Sequence of the Plant Pathogen and Biotechnology Agent Agrobacterium tum A; Reference number: A97359; MID:21608551; PMID:11743194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A,Gene: AGR C 4046
A,Map position: circular chromosome
C,Superfamily: Sensor diguanylate cyclase/c-di-GMP phosphodiesterase with MHYT sensor do
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-705 <SCH>
A;Residues: 1-705 <SCH>
A;Cross-references: UNIPROT:Q96U83; UNIPARC:UPIO000179F6E; EMBL:AL389900; GSPDB:GN00116;
A;Experimental source: BAC clone B15I20; strain OR74A
C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-696 <KUR>
A;Cross-references: UNIPROT:QBUDA1; UNIPARC:UPI00000D1E16; GB:AE007869; PIDN:AAK87968.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            C;Species: Neurospora crassa
C;Date: 21-Jul-2000 #sequence_revision 21-Jul-2000 #text_change 31-Dec-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 55.6%; Score 5; DB 2; Length 696; Best Local Similarity 100 0%; Pred. No. 2.1e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 705;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        hypothetical protein B15120.40 [imported] - Neurospora crassa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 55.6%; Score 5; DB 2; Le:
Best Local Similarity 100.0%; Pred. No. 2.1e+02;
Matches 5; Conservative 0; Mismatches 0;
                                                             672 VDDTF 676
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              672 VDDTF 676
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   379 DDTFY 383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Gene: NCSP:B15120.40
2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3 DDTFY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Map position: 6
A; Introns: 287/3
```

Gaps

ö

Indels

Length 735;

```
A;Residens: 1-735 <RES>
A;Cross-references: UNIPROT:Q63531; UNIPARC:UPI000012DB2D; GB:M99169; NID:g206771; PIDN C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C;Species: Campylobacter jejuni
C;Date: 31-Mar-2000 #sequence_revision 31-Mar-2000 #text_change 09-Jul-2004
C;Accession: Aslanda M. J. Mungall, K.; Ketley, J.M.; Churcher, C.; Basham, D.; Chilli.
C.W.; Quail, M.; Rajandream, M.A.; Rutherford, K.M.; VanVliet, A.; Whitehead, S.; Barre
Nature 403, 655-668, 2000
A;Title: The genome sequence of the food-borne pathogen Campylobacter jejuni reveals.hy;
A;Reference number: A81250; MUID:20150912; PMID:10688204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Cross-references: UNIPROT:Q9PIZ8; UNIPARC:UPI0000C2051; GB:AL139074; GB:AL11168; NI
A;Experimental source: serotype O2, strain NCTC 11168
C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A32571

ribosomal protein S6 kinase II (BC 2.7.1.-) alpha chain homolog - chicken

ribosomal protein S6 kinase II (BC 2.7.1.-) alpha chain homolog - chicken

C;Species Gallus (chicken)

C;Species Gallus (chicken)

C;Accession: A32571

R;Alcorta, D.A.; Crews, C.M.; Sweet, L.J.; Bankston, L.; Jones, S.W.; Erikson, R.L.

Mol. Cell. Biol. 9, 3850-3859, 1989

A;Title: Sequence and expression of chicken and mouse rsk: homologs of Xenopus laevis ri
A;Reference number: A93113; MUID:89384612; PMID:2779569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Cross-references: UNIPROT:P18652; UNIPARC:UP1000012DB30; GB:M28488; NID:g551555; PIDN C;Superfamily: ribosomal protein S6 kinase II; protein kinase homology C;Keywords: ATP; phosphortransferase; serine/threonine-specific protein kinase F;7839/Domain: protein kinase homology «KINI» F;86-94/Region: protein kinase ATP-binding motif F;86-94/Region: protein kinase ATP-binding motif F;433-692/Domain: protein kinase homology «KINI»
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         outer membrane protein Cj0129c [imported] - Campylobacter jejuni (strain NCTC 11168)
                                                                                                                                                                                                                                           Ajene: Rsk-1
CjSuperfamily: ribosomal protein S6 kinase II; protein kinase homology
CjKeywords: AFP; phosphotransferase; serine/threonine-specific protein kinase
CjKeywords: AFO-321/Domain: protein kinase homology «KINI»
F;68-76/Region: protein kinase ATP-binding motif
F;416-675/Domain: protein kinase homology «KINI»
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 2; Le...
                 A; Reference number: A53300; MUID: 93349850; PMID: 7688567
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              55.6%; Score 5; DB 2; Len
100.0%; Pred. No. 2.2e+02;
iive 0; Mismatches 0;
                                              A,Accession: A53300
A,Status: preliminary; translated from GB/EMBL/DDBJ
A,Molecule type: mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  / Match 5; DB 2 Local Similarity 100.0%; Pred. No. 2.2 Local Similarity 00.0%; Pred. No. 2.2 Les 5; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |||||
346 DDTFY 350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-739 <PAR>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Molecule type: mRNA
A; Residues: 1-752 <ALC>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             400 KVDDT 404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ^
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Accession: A32571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A, Gene: Cj0129c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local S
Matches 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             m
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઢ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            C; Comment: Although ribosomal protein S6 (see PIR:R3HU6) is pnospinoryrated by unity comment: Although ribosomal protein S6 (see PIR:R3HU6) is pnospinoryrated by Genetica:
C; Genetica:
C; Genetica:
A; Genetica:
A; Genetica:
A; Map position: 3pter-3qter
A; Map position: 3pter-3qter
A; Map position: 3pter-3qter
C; Superfamily: ribosomal protein S6 kinase II; protein kinase homology
C; Keywords: ATP: monomer; phosphoprotein phosphotransferase; serine/threonine-specific F; 60-321/Domain: protein kinase homology cKINI>
F; 60-321/Domain: protein kinase ATP-binding motif
F; 424-432/Region: protein kinase ATP-binding motif
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          C;Accession: A53300
R;Grove, J.R.; Price, D.J.; Banerjee, P.; Balasubramanyam, A.; Ahmad, M.F.; Avruch, J. Biochemistry 32, 7727-7738, 1993
A;Title: Regulation of an epitope-tagged recombinant Rsk-1 S6 kinase by phorbol ester an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            C;Accession: 151901
R;Moller, D.E.; Xia, C.H.; Tang, W.; Zhu, A.X.; Jakubowski, M.
T. Physiol. 266, 351-359, 1994
A;Title: Human rsk isoforms: cloning and characterization of tissue-specific expression.
A;Reference number: 151901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A,Accession: I51901
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molle type: mRNA
A;Residues: 1-735 <MOL>
A;Residues: 1-735 <MOL>
A;Cross-references: UNIPROT:Q15418; UNIPARC:UPI0000035BE4; GB:L07597; NID:g292456; PIDN:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ribosomal protein S6 kinase 2 (EC 2.7.1.-) 1 - human
N'Alternate names: MAP kinase-activated PK1; p90 S6 kinase; ribosomal protein S6 kinase
                                C; Species: Mus musculus (house mouse)
C; Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 09-Jul-2004
C; Accession: B32571
R; Alcorta, D.A.; Crews, C.M.; Sweet, L.J.; Bankston, L.; Jones, S.W.; Erikson, R.L. Mol. Cell. Biol. 9, 3850-3859, 1989
A; Title: Sequence and expression of chicken and mouse rsk: homologs of Xenopus laevis: A; Reference number: A93113; MUID:89384612; PMID:2779569
                 - mouse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                        A; Molecule type: mRNA
A; Residues: 1-724 <ALC>
A; Residues: 1-724 <ALC>
A; Cross-references: VALC>
C; Superfamily: ribosomal protein S6 kinase II; protein kinase homology
C; Superfamily: ribosomal protein S6 kinase II; protein kinase homology
C; Supervords: ATP; phosphotransferase; serine/threonine-specific protein kinase
F; 60-310/Domain: protein kinase homology <KINI>
F; 68-76/Region: protein kinase APP-binding motif
F; 405-664/Domain: protein kinase homology <KINI>
ribosomal protein S6 kinase II (EC 2.7.1.-) alpha chain homolog (clone Mu6A)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   C;Species: Homo sapiens (man)
C;Date: 02-Jul-1996 #sequence_revision 02-Jul-1996 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ribosomal protein S6 kinase (EC 2.7...-) II - rat
C;Species: Rattus norvegicus (Norway rat)
C;Date: 02-Jul_1996 #sequence_revision 02-Jul-1996 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 724;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 55.6%; Score 5; DB 2; Length 735; Best Local Similarity 100.0%; Pred. No. 2.2e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               55.6%; Score 5; DB 1; Le
100.0%; Pred. No. 2.2e+02;
tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity 100..
5, Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 335 DDTFY 339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DDTFY 350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3 DDTFY 7
                                                                                                                                                                                                                                                                                   Accession: B3257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
```

ö

Gaps

ö

Indels

Length 739;

Wed May 17

```
C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 protein Y63D3A.6b [imported] - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Species: 10-May-2001 #sequence_revision 10-May-2001 #text_change 09-Jul-2004
C;Accession: D87965
R;anonymous, The C. elegans Sequencing Consortium.
Science 282, 2012-2018, 1998
A;Tille: Ganome sequence of the nematode C. elegans: a platform for investigating biolog
A;Reference number: A75000; MUID: 99069613; PMID: 9851916
A;Note: see websites genome. Wustl.edu/gsc/C_elegans/ and www sanger.ac.uk/Projects/C_ele
A;Note: published errata appeared in Science 283, 35, 1999; Science 283, 2103, 1999; and
A;Accession: D87965
A;Cession: preliminary
A;Molecule type: DNA
A;Residues: 1-778 <STO>
A;Cross-references: UNIPROT:Q9UIV9; UNIPARC:UP1000017A561; GB:chr_I; PIDN:CAA21710.1; PI
C;Genetics:
A;Genetics:
A;Genetics:
A;Genetics:
A;Genetics:
A;Genetics:
A;Map position: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                               Submitted to the EMBL Data Library, October 1998
A; Reference number: 220335
A; Accession: T27276
A; Accession: T27276
A; Status: preliminary; translated from GB/EMBL/DDBJ
A; Molecule type: DNA
A; Residues: 1-752 <WIL>
A; Cross-references: UNIPROT: Q9U1V9; UNIPARC: UPI000007E517; EMBL: AL032652; PIDN: CAA21710.
C; Genetics:
                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C;Genetics:
A;Gene: CESP:Y63D3A.6b
A;Map position: 1
A;Introns: 42/1; 80/3; 132/3; 211/3; 248/1; 329/2; 400/3; 564/3; 676/3; 711/3
                                                                                                                                                                                                                                                                                                           hypothetical protein Y63D3A.6b - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 15-Oct.-1999 #sequence_revision 15-Oct.-1999 #text_change 09-Jul-2004
C;Accession: T27276
                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                             ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              hypothetical protein At2q26570 [imported] - Arabidopsis thaliana N;Alternate names: hypothetical protein T9J22.24 C;Species: Arabidopsis thaliana (mouse-ear cress)
n 55.6%; Score 5; DB 1; Length 752; Similarity 100.0%; Pred. No. 2.2e+02; 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 778;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 55.6%; Score 5; DB 2; Length 752; Best Local Similarity 100.0%; Pred. No. 2.2e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
55.6%; Score 5; DB 2; Ler
Best Local Similarity 100.0%; Pred. No. 2.3e+02;
Matches 5; Conservative 0; Mismatches 0;
                       Best Local Similarity
Matches 5; Conserv
                                                                                                                                                     11111
364 DDTFY 368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                14 TPYYV 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          14 TFYYV 18
                                                                                                               3 DDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5 TFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5 TFYYV 9
  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 114
                                                                                                                                                                 g
                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
```

```
C;Date: 12-Feb-1999 #sequence revision 12-Feb-1999 #text_change 09-Jul-2004
C;Accession: T00990; B84662
R;Rounsley, S.D.; Lin, X.; Ketchum, K.A.; Crosby, M.L.; Brandon, R.C.; Sykes, S.M.; Kau: submitted to the EMBL Data Library, April 1998
A;Description: Arabidopsis thaliana chromosome II BAC T9J22 genomic sequence.
A;Reference number: 214161
                                                                                                                                                                                                                                                                                                          A,Accession: T00990
A,Status: translated from GB/EMBL/DDBJ
A,Molecule type: DNA
A,Residues: 1-807 <ROUJ>
A,FResidues: 1-807 <ROUJ>
A,Experimental source: cultivar columbia
A,Experimental source: cultivar columbia
B,Experimental Source: cultiv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Cross-references: UNIPARC:UP100000A832E; GB:AE002093; NID:g2739382; PIDN:AAC14505.1; C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Molecule type: DNA
A; Residues: 1-841 < DIE.
A; Residues: 1-841 < DIE.
A; Cross-references: UNIPROT: P$0896; UNIPARC: UPI00001327E3; EMBL: U33057; NID: 9927764; PID
R; Formosa, T.; Nittis, T.
R; Formosa, T.; Nittis, T.
A; Formosa, T.; Nittis, T.
A; Poescription: High copy suppressors of the temperature sensitivity of DNA polymerase all A; Reference number: $59357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Molecule type: DNA
A;Residues: 1-115,'C',117-121,'KCLRLIQSCVP',134-197,'RAILLPHHTVLAT',211-731,'K',733-841
A;Cross-references: UNIPARC:UP10000168A3B; EMBL:U33115; NID:g992653; PID:g992654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Suppressor protein PSP1 - yeast (Saccharomyces cerevisiae)
NyAlternate names: protein YDR505c
C;Species: Saccharomyces cerevisiae
C;Date: 22-Aug-1996 #sequence_revision 06-Sep-1996 #text_change 09-Jul-2004
C;Accession: 869563; 859357
R;Dietrich, F.S.
R;Dietrich, F.S.
R;Dietrich, F.S.
A;Description: The sequence of S. cerevisiae cosmids 8166, 9787, 9717, and lambda 3073.
A;Reference number: 869553
A;Accession: 869563.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     55.6%; Score 5; DB 2; Length 807; 100.0%; Pred. No. 2.4e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 841;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A, Description: high copy suppressor of polymerase mutations
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               55.4%; Score 5; DB 2; Len ilarity 100 0%; Pred. No. 2.4e+02; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Gene: SGD:PSP1; GIN5
A;Cross-references: SGD:S0002913; MIPS:YDR505c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity 100
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Gene: At2g26570; T9J22.24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity
-hea 5; Conserve
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-807 <STO>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VDDTF 84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Accession: S59357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Map position: 4R
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Map position: 2
A;Introns: 196/3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     80
```

```
A;Cross-references: UNIPROT:084812; UNIPARC:UPI00000D33B0; GB:AE001353; GB:AE001273; NI:
A;Experimental source: serotype D, strain UW-3/Cx
C;Genetics:
A;Gene: ptr
C;Superfamily: insulin-degrading enzyme (IDE)/zinc protease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Molecule type: DNA
A;Residues: 1-971 <LYN>
A;Cross-references: UNIPROT:Q9UUM2; UNIPARC:UP100006C882; EMBL:AL049558; PIDN:CAB40166
A;Experimental source: strain 972h-; cosmid c216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         mating-type switching protein swil - fission yeast (Schizosaccharomyces pombe)
C;Species: Schizosaccharomyces pombe
C;Species: 3chizosaccharomyces pombe
C;Species: 21-Jan-2000 #sequence_revision 21-Jan-2000 #text_change 09-Jul-2004
C;Accession: T43656
R;Schmidt, H.
Submitted to the EMBL Data Library, May 1999
A;Reference number: 222605
A;Accession: T43656
A;Access
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     conserved hypothetical protein SPBC216.06c - fission yeast (Schizosaccharomyces pombe)
                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       C;Species: Schizosaccharomyces pombe
C;Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 09-Jul-2004
C;Accession: T39912
R;Lyne, M.; Rajandream, M.A.; Barrell, B.G.; Oliver, K.; Harris, D.
submitted to the EMBL Data Library, March 1999
A;Reference number: 221890
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gapa
                                                                                                                                                                                                                                                                                                                                                                                                             Gapa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Match 55.6%; Score 5; DB 2; Length 971; Local Similarity 100.0%; Pred. No. 2.7e+02; les 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              55.6%; Score 5; DB 2; Length 971;
100.0%; Pred. No. 2.7e+02;
iive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                   Query Match 55.6%; Score 5; DB 2; Length 956; Best Local Similarity 100.0%; Pred. No. 2.7e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           C;Genetics:
A;Gene: SPDB:SPBC216.06c
A;Map position: 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     491 DDTFY 495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  670 DIFYY 674
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              670 DTFYY 674
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3 DDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4 DTFYY 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4 DTFYY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Introns: 316/3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Introne: 316/3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               probable insulinase family/proteinase III - Chlamydia trachomatis (serotype D, strain Un C;Species: Chlamydia trachomatis
C;Species: Chlamydia trachomatis
C;Date: 13-Sep-1998 #sequence_revision 13-Sep-1998 #text_change 31-Dec-2004
C;Accession: B71468
R;Stephens, R.S.; Kalman, S.; Lammel, C.J.; Fan, J.; Marathe, R.; Aravind, L.; Mitchell, A;Stephens, R.S.; Kalman, S.; Lammel, C.J.; Fan, J.; Marathe, R.; Aravind, L.; Mitchell, A;Title: Genome sequence of an obligate intracellular pathogen of humans: Chlamydia trach, A;Accession: B71468
A;Accession: B71468
A;Accession: B71468
A;Accession: Preliminary
A;Molecule type: DNA
A;Residues: 1-956 <ARN>
                                                                                                                                                                                                                                                                                                                                            C. Accession: Total and the sequence revision 26-Feb-1999 #text_change 09-Jul-2004
R. Dante, M.; Wamsley, P.; Gibbon, A.
submitted to the EMBL Data Library, June 1997
A. Description: The sequence of A. thaliana TM021B04.
A. Reference number: Z14440
A. A. Reference number: Z1440
A. A. Status: translated from GB/EMBL/DDBJ
A. Molecule type: DNA
A. Mesaidues: 1-938 cDAN>
A. Residues: 1-938 cDAN>
A. Constinct type: DNA
A. Constinct type: DNA
A. Constinct type: DNA
A. Residues: 1-938 cDAN>
A. Constinct type: DNA
A. Constinct typ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Accession: S44622
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-955 <FAV>
A;Cross-references: UNIPARC:UPI000017B6B2; EMBL:L14433; NID:g289649; PID:g289655
A;Introns: 203/3; 461/3; 599/3; 702/1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                  hypothetical protein A TM021B04.3 - Arabidopsis thaliana
C.Species: Arabidopsis thaliana (mouse-ear cress)
C.Date: 26-Feb-1999 #sequence_revision 26-Feb-1999 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                C50C3.3 protein - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 20-Peb.1995 #sequence_revision 20-Peb-1995 #text_change 30-Jun-2001
C;Accession: S44622
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 55.6%; Score 5; DB 2; Length 938; Best Local Similarity 100.0%; Pred. No. 2.6e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 55.6%; Score 5; DB 2; Length 955; Best Local Similarity 100.0%; Pred. No. 2.7e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        C'Accession: S44622
RiFavello, A.D.
submitted to the EMBL Data Library, May 1993
A; Description: Sequence of the C. elegans cosmid C50C3.
A; Reference number: S44627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Gene: ATSP:A TM021B04.3
A;Map position: 5
A;Introns: 125/1; 559/3; 664/1; 798/3
     734 TFYYV 738
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ||||||
209 VDDTF 213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    533 KVDDT 537
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 KVDDT S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 118
유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
```

```
A/Status: preliminary
A/Molecule type: DNA
A/Molecule type: DNA
A/Rosidues: 1-1152 «KUR»
A/Cross-references: UNIPROT: Q8YZU1; UNIPARC: UP10000CDD0F; GB: BA000019; PIDN: BAB72324.1
A/Experimental source: strain PCC 7120
C/Genetics:
A/Gene: alr0366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    transcription-repair coupling factor all5215 [imported] - Nostoc sp. (strain PCC 7120)
C.Species: Nostoc sp. PCC 7120
A.Note: Nostoc sp. pcC 7120
C.Species: Nostoc sp. etrain PCC 7120 is a synonym of Anabaena sp. strain PCC 7120
C.Date: 14-Dec-2001 #sequence_revision 14-Dec-2001 #text_change 09-Jul-2004
R.Kaneko, T.; Nakamura, Y.; Wolk, C.P.; Kuritz, T.; Sasamoto, S.; Watanabe, A.; Iriguchi Nakazaki, N.; Shimpo, S.; Sugimoto, M.; Takazawa, M.; Yamada, M.; Yasuda, M.; Tabata, £ A;Title: Complete Genomic Sequence of the Filamentous Nitrogen-fixing Cyanobacterium Ans A;Reference number: AB1807; MUID:21595285; PMID:11759840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A,Residues: 1-1185 «KUR»
A,Cross-references: UNIPROT:08YLT1; UNIPARC:UPI00000CEDD4; GB:BA000019; PIDN:BAB76914.1;
A,Experimental source: strain PCC 7120
C,Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GAF domain protein (cyclic nt signal transduct.) PFB0510w - malaria parasite (Plasmodium C;Species: Plasmodium falciparum
C;Species: 13-Nov-1998 #sequence_revision 13-Nov-1998 #text_change 09-Jul-2004
C;Accession: D71613
R;Gardner, M.J.; Tettelin, H.; Carucci, D.J.; Cummings, L.M.; Aravind, L.; Koonin, B.V.; Fertea, M.; Salzberg, S.; Zhou, L.; Sutton, G.G.; Clayton, R.; White, O.; Smith, H.O. Science 282, 1126-1132, 1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Residues: 1-1245 <GAR>
A;Cross-references: UNIPROT:096195; UNIPARC:UPI00000761C9; GB:AE001399; GB:AE001362; NID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Title: Chromosome 2 sequence of the human malaria parasite Plasmodium falciparum A;Reference number: A71600; MUID:99021743; PMID:9804551
A;Accession: D71613
                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Status: preliminary; nucleic acid sequence not shown; translation not shown
                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       55.6%; Score 5; DB 2; Length 1185; llarity 100.0%; Pred. No. 3.2e+02; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                               55.6%; Score 5; DB 2; Length 1152; 100.0%; Pred. No. 3.1e+02; Ative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 1245;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
55.6%; Score 5; DB 2; Lei
Best Local Similarity 100.0%; Pred. No. 3.3e+02;
Matches 5; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Gene: al15215
C;Superfamily: transcription-repair coupling protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Experimental source: clone 3D7
                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity 100.
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1028 KVDĎŤ 1032
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            370 KVDDT 374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local Similarity
les 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Status: preliminary A;Molecule type: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Molecule type: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                          1 KVDDT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 KVDDT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A,Gene: PFB0510w
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 125
                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                              Cidace: LOTINGY_ADUL medyuence_revision intermay_gour medyuence_revision intermay_adule to the Cidaces signs B99009
Rianonymous, The C. elegans Sequencing Consortium.
Science 282, 2012-2018, 1998
A;Title: Genome sequence of the nematode C. elegans: a platform for investigating biolog A;Title: Genome sequence of the nematode C. elegans: a platform for investigating biolog A;Title: Genome sequence of the nematode C. elegans: a platform for investigating biolog A;Title: Genome sequence of the nematode C. elegans and www sanger.ac.uk/Projects/C_ele A;Note: published errata appeared in Science 283, 35, 1999; Science 283, 2103, 1999; and A;Accession: B89009
A;Accession: B89009
A;Accession: B89009
A;Accession: B89009
A;Residues: 1-973 <STO>
A;Cross-references: UNIPROT:O61907; UNIPARC:UPI000017A66C; GB:chr_V; PIDN:AAC17700.1; PI A;Genetics:
A;Genetics:
A;Genetics:
A;Map position: 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RND multidrug efflux transporter PA2018 [imported] - Pseudomonas aeruginosa (strain PA01 C.Species: 15-Sep-2000 #sequence_revision 15-Sep-2000 #text_change 09-Jul-2004 C.Accession: D83393
R.Stover, C.K.; Pham, X.Q.; Erwin, A.L.; Mizoguchi, S.D.; Warrener, P.; Hickey, M.J.; Br. Astover, C.K.; Pham, X.Q.; Erwin, A.L.; Mizoguchi, S.D.; Warrener, P.; Hickey, M.J.; Br. J. Lory, S.; Olson, M.V.
Nature 406, 959-964, 2000
A.Title: Complete genome sequence of Pseudomonas aeruginosa PA01, an opportunistic pathor, R.A. Reference number: A82950; MUID:20437337; PMID:10984043
A.Accession: D83393
A.Accession: D83393
A.Accession: D83393
A.Accession: D83595; WID:20437337; PMID:10984043
A.Residues: 1-1045 <STO>
A.Residues: 1-1045 STO>
A.Residues: 1-1045 STO>
A.Residues: UNIPROT:09RG59; UNIPARC:UPI000000420B; GB:AE004628; GB:AE004091; NID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AE1852

hypothetical protein alr0366 [imported] - Nostoc sp. (strain PCC 7120)

hypothetical protein alr0366 [imported] - Nostoc sp. (strain PCC 7120)

A;Species Nostoc sp. strain PCC 7120 is a synonym of Anabaena sp. strain PCC 7120

C;Date: 14-Dec-2001 #sequence_revision 14-Dec-2001 #text_change 09-Jul-2004

C;Accession: Aslass

R;Kantoko, T; Nakamura, Y; Wolk, C.P.; Kuritz, T.; Sasamoto, S.; Watanabe, A.; Iriguchi Nakazaki, N.; Shimpo, S.; Sugimoto, M.; Takazawa, M.; Yamada, M.; Yasuda, M.; Tabata, S DNA Res. 8, 205-213, 2001

A;Reference Complete Genomic Sequence of the Filamentous Nitrogen-fixing Cyanobacterium Ana A;Reference number: AB1807; MUID:21595285; PMID:11759840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                        otein T27C4.4 [imported] - Caenorhabditis elegans
Species: Caenorhabditis elegans
Date: 10-May-2001 #sequence_revision 10-May-2001 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            55.6%; Score 5; DB 2; Length 1045; nilarity 100.0%; Pred. No. 2.9e+02; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 2; Length 973; . 2.7e+02; ches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 55.6%; Score 5; DB 2
Best Local Similarity 100.0%; Pred. No. 2.7
Matches 5; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A,Gene: PA2018
C,Superfamily: acriflavin resistance protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Local Similarity
tes 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          258 DDTFY 262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       234 KVDDT 238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3 DDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local S
Matches 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
```

```
C;Accession: E71622
R;Gardner, M.J; Tettelin, H.; Carucci, D.J.; Cummings, L.M.; Aravind, L.; Koonin, B.V.
F;Gardner, M.J; Tettelin, H.; Carucci, D.J.; Cummings, L.M.; Aravind, L.; Koonin, B.V.
Science 282, 1126-1132, 1998
A;Title: Chrcmcosome 2 sequence of the human malaria parasite Plasmodium falciparum.
A;Reference number: A71600; MUID:99021743; PMID:9804551
A;Accession: E71622
A;Status: preliminary; nucleic acid sequence not shown; translation not shown
A;Residues: DNA
A;Residues: UNIPROT:096129; UNIPARC:UPI000017862A; GB:AE001374; GB:AE001362; NI
C;Genetics:
A;Genetics:
A;Gene: PFB0125c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CiAccession: T40993
Ribyne, M.; Rajandream, M.A.; Barrell, B.G.; Volckaert, G.
Bubmitted to the EMBL Data Library, March 1999
A;Reference number: Z21962
A;Accession: T40993
A;Accession: T40993
A;Accession: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-1338 eLYN>
A;Residues: UNIPROT:P38938; UNIPARC:UP100001274D0; EMBL:AL049559; PIDN:CAB40178
A;Experimental source: strain 972h-; cosmid c1450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   C)Accession: 850943

R; Odell, C.; Bowman, S.

Bubmitted EMBL Data Library, January 1995

A; Reference number: 850941

A; Accession: 850943

A; Molecule type: DNA

A; Residues: 1-1361 < CODE>

A; Cross-references: UNIPROT: Q04693; UNIPARC: UPI00000530F0; EMBL: Z47816; NID: g642303; PII
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                protein kinase ceki - fission yeast (Schizosaccharomyces pombe)
C;Species: Schizosaccharomyces pombe
C;Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       hypothetical protein YML049c - yeast (Saccharomyces cerevisiae)
N,Alternate names: hypothetical protein YM9827.03c
C;Species: Saccharomyces cerevisiae
C;Date: 10-Peb-1995 #sequence_revision 12-May-1995 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 1308;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 2; Length 1338; 3.5e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     55.6%; Score 5; DB 2; Length 1361; 100.0%; Pred. No. 3.5e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 2; Len
o. 3.4e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                55.6%; Score 5; DB 2
100.0%; Pred. No. 3.4
tive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           55.6%; Score 5; DB 2
100.0%; Pred. No. 3.5
tive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Gene: SGD:RSE1
A;Cross-references: SGD:S0004513; MIPS:YML049c
A;Map position: 13L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity 100.
Matches 5, Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity 100.
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Gene: SPDB:SPCC1450.11c
A;Map position: 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1078 VDDTF 1082
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         321 DDTFY 325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ^
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3 DDTFY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2 VDDTF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           C, Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Cipacian Schizosaccharomyces ponce (Schizosaccharomyces ponce)
Cipacian 197903 173003 173004 173004
Cipacian 1737003 173003 173004 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 173003 1730
                                                                                                       pslA protein - slime mold (Dictyostelium discoideum)
C;Species: Dictyostelium discoideum
C;Date: 20-Sep-1999 #sequence_revision 20-Sep-1999 #text_change 09-Jul-2004
C;Accession: T14476
R;Ysauswaw, H.; Mohanty, S.; Firtel, R.A.
submitted to the EMBL Data Library, December 1997
A;Reference number: Z18117
A;Residues: T14476
A;Scatus: preliminary; translated from GB/EMBL/DDBJ
A;Residues: 1-1269 <YAS>
A;Cosserreferences: UNIPROT:043993; UNIPARC:UPI000007CA48; EMBL:AF038919; NID:g2766695; C;Genetics:
A;Gene: pslA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     hypothetical 149.2K protein SPAC1F5.01 c18b11.11 - fission yeast (Schizosaccharomyces pd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  probable membrane associated protein PFB0125c - malaria parasite (Plasmodium falciparum)
C;Species: Plasmodium falciparum
C;Date: 13-Nov-1998 #sequence_revision 13-Nov-1998 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 1269;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 55.6%; Score 5; DB 2; Length 1294; Best Local Similarity 100.0%; Pred. No. 3.4e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         55.6%; Score 5; DB 2; Le. 100.0%; Pred. No. 3.3e+02; tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity 100.0
Matches 5; Conservative
|||||
759 DDTFY 763
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       KVDDT 399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |||||
560 TPYYV 564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5 TPYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 128
                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠે
```

36

Page

Matches

ò g

```
hypothetical protein YIL149c - yeast (Saccharomyces cerevisiae)
C;Species: Saccharomyces cerevisiae
C;Date: 02-Dec-1994 #sequence_revision 02-Dec-1994 #text_change 09-Jul-2004
C;Accession: 848385
R;Churcher, C.
Bubmitted to the EMBL Data Library, September 1994
A;Reference number: 848310
A;Accession: 848385
A;Accession: B48385
A;Accession: UNDPROT:P40457; UNIPARC:UPI000013B453; GB:Z47047; EMBL:Z38059; NID:c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      C)Accession: T17485
R;Van Wageningen, A.; Kirkpatrick, P.; Williams, D.; Harris, B.; Kershaw, J.; Lennard, N
R;Van Wageningen, A.; Kirkpatrick, P.; Williams, D.; Harris, B.; Kershaw, J.; Lennard, N
R;Van Wageningen, A.; Essentiate and analysis of genes involved in the biosynthesis of a vancomycin g
A;Reference number: 218804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Map position: V
A;Introns: 62/2; 703/1; 743/3; 930/3; 1019/3; 1087/2; 1131/2; 1273/3; 1380/3; 1593/2; 19
A;Note: P07G11.9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Accession: T17485
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Blatus: preliminary; translated from GB/EMBL/DDBJ
A;Rolecule type: DNA
A;Reaidues: 1-1860 «VAN»
A;Cross-references: UNIPROT:052821; UNIPARC:UPI00000B1899; EMBL:AJ223999; NID:e1251240;
C;Keywords: carrier protein
F;512-953/Domain: acetate-CoA ligase homology «ACL»
F;969-1037/Domain: acyl carrier protein homology «ACP»
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-2025 <SAM>
A;Cross.references: UNIPROT:O16237; UNIPARC:UP10000077F90; EMBL:AF016419; NID:G2291159;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      peptide synthetase homolog PCZA363.5 - Amycolatopsis orientalis
C;Species: Amycolatopsis orientalis
C;Date: 02-Sep_2000 #sequence_revision 02-Sep-2000 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             C; Species: Caenorhabditis elegans
C; Date: 23-Apr-1999 #sequence_revision 23-Apr-1999 #text_change 09-Jul-2004
C; Accession: T03884
R; Sammons, L.; Wohldmann, P.; Sansone, J.
aubmitted to the EMBL Data Library, July 1997
A; Description: The sequence of C. elegans cosmid F07G11.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          55.6%; Score 5; DB 2; Length 1679; 100.0%; Pred. No. 4.1e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               55.6%; Score 5; DB 2; Length 1860; 100.0%; Pred. No. 4.4e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               hypothetical protein F07G11.9 - Caenorhabditis elegans
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Gene: SGD:MLP2; MIPS:YIL149c
A;Cross-references: SGD:S0001411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Reference number: Z15127
A;Accession: T03884
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1084 KVDDT 1088
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    990 VDĎŤF 994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Map position: 9L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    C;Accession: T29861
R;Murray, J.; Wohldmann, P.
submitted to the EMBL Data Library, July 1996
A;Description: The sequence of C. elegans cosmid F10G2.
A;Accession: T29861
A;Accession: T29861
A;Accession: T29861
A;Accession: T29861
A;Molecule type: DNA
A;Residues: 1-1614 cMUR>
A;Residues: 1-1614 c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ritheologis, A.; Ecker, J.R.; Palm, C.J.; Federspiel, N.A.; Kaul, S.; White, O.; Alonso, Chin, C.W.; Chung, M.K.; Conn, L.; Conway, A.B.; Conway, A.R.; Creasy, T.H.; Dewar, K.; angen, N.F.; Hughes, B.; Huizar, L.
Nature 408, 816-820, 2000
A.; Authors: Hunter, J.L.; Y.; Liu, X.; Liu, Z.A.; Luros, J.S.; Khaykin, E.; Kim, C.C., J. J. J., H.; Li, Y.; Lin, X.; Liu, Z.A.; Luros, J.S.; Maiti, E.; Kim, C.C., A.; Li, Y.; Lin, X.; Liu, Z.X.; Liu, Z.A.; Luros, J.S.; Maiti, R.; Marziali, R.Zzo, M.; Rooney, T.; Rowley, D.; Sakano, H.
A.; Authors: Salzberg, S.L.; Schwartz, J.R.; Shinn, P.; Southwick, A.M.; Sun, H.; Tallon, A.; Macfence and analysis of chromosome 1 of the plant Arabidopsis.
A.; Reference number: A86141; MUID:21016719; PMID:11130712
A.; Molecule type: DNA
A.; Molecule type: DNA
A.; Molecule type: UNIPROT:Q9LPVO; UNIPARC:UPI00000A17A2; GB:AE005172; NID:g8886986; PI
                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Species: Caenorhabditis elegans
Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 15-Oct-1999
Accession: T29861
                                                                                                                                                                                                                                                                                                                                                                                                                     C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 09-Jul-2004
C;Accession: G86344
            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 55.6%; Score 5; DB 2; Length 1552; Best Local Similarity 100.0%; Pred. No. 3.9e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 1614;
        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 55.6%; Score 5; DB 2; Length 1614 Best Local Similarity 100.0%; Pred. No. 4e+02; Matches 5; Conservative 0; Mismatches 0; Indels
        0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        hypothetical protein F10G2.5 - Caenorhabditis elegans
        Mismatches
                                                                                                                                                                                                                                                                                                                                                                              T22I11.2 protein - Arabidopsis thaliana
        ö
    5; Conservative
                                                                                                                                                           1251 DDTFY 1255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1453 TFYYV 1457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     465 KVDDT 469
                                                                                 3 DDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A, Map position: 1
```

ઠ g RESULT 133 S48385

ò 셤

```
probable peptide synthetase - Aureobasidium pullulans
C;Species: Aureobasidium pullulans
C;Date: 02-Sep-2000 #sequence_revision 02-Sep-2000 #text_change 09-Jul-2004
C;Accession: T30192
R;Peery, R.B.; Thornewell, S.J.; Tobin, M.B.; Skatrud, P.L.
submitted to the EMBL Data Library, January 1997
A;Description: Discovery of an MDR-like gene adjacent to a peptide synthetase in Aureob
A;Reference number: Z20767
A;Accession: T30192
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Residues: DNA
A;Residues: L-10797 APES
A;Cross-references: UNIPROT:094116; UNIPARC:UPI000017CF3F; EMBL:UB5909; NID:g4099310; P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    lectin chain B - Iris hollandica (Dutch Iris) (fragment)
C;Species: Iris hollandica (Dutch Iris)
C;Species: Iris hollandica (Dutch Iris)
C;Date: 19-Mar-1997 #sequence_revision 19-Dec-1997 #text_change 07-May-1999
C;Accession: B55415
R;Mo, H.; Van Damme, E.J.M.; Peumans, W.J.; Goldstein, I.J.
B;Mo, H.; Van Damme, E.J.M.; Peumans, W.J.; Goldstein, I.J.
A;Title: Isolation and characterization of an N-acetyl-D-galactosamine-binding lectin f
A;Reference number: A53415
A;Accession: B55415
A;Accession: B55415
A;Accession: B55415
A;Accession: C;Accession: B54415
A;Accession: Bcotesin
A;Residues: 1-25 cMOA>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CiSpecies: Helicobacter pylori
CiDate: 09-Aug-1997 #sequence_revision 09-Aug-1997 #text_change 09-Jul-2004
CiDate: 09-Aug-1997 #sequence_revision 09-Aug-1997 #text_change 09-Jul-2004
CiAccession: C64536
R;Tomb, J.F.; White, O.; Kerlavage, A.R.; Clayton, R.A.; Sutton, G.G.; Fleischmann, R.D
Peterson, S.; Loftus, B.; Richardson, D.; Dodson, R.; Khalak, H.G.; Glodek, A.; McKenn
Peterson, S.; Loftus, B.; Richardson, D.; Weidman, J.M.; Fujil, C.; Bowman, C.; Watthey, L
Nature 388, 539-54, 1997
A;Authors: Wallin, E.; Hayes, W.S.; Borodovsky, M.; Karpk, P.D.; Smith, H.O.; Fraser, C
A;Title: The complete genome sequence of the gastric pathogen Helicobacter pylori.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gape
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 10797;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 2; Lens.
No. 1.7e+03; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               hypothetical protein HP0131 - Helicobacter pylori (strain 26695)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       44.4%; Score 4; DB 2; Length 25; 100.0%; Pred. No. 2.3e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            C.Keywords: carrier protein
F:1618-1688/Domain: acyl carrier protein homology <ACP1>
F:3682-3752/Domain: acyl carrier protein homology <ACP2>
F:5615-5685/Domain: acyl carrier protein homology <ACP3>
F:5013-7573/Domain: acyl carrier protein homology <ACP3>
F:9683-9752/Domain: acyl carrier protein homology <ACP5>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Introns: 2078/3; 4142/3; 6075/3; 7963/3; 7985/2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              55.6%; Score 5; DB 2
100.0%; Pred. No. 1.7
:ive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Cross-references: UNIPARC: UPI000017CAD0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity 100.
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            10462 KVDDT 10466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
Matches 4; Conservat
                                     1380 KVDDT 1384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2 VDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 VDDT 4
                                     a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RilBawa, H.; Agano, S.; Sahara, K.; Iizuka, T.; Bando, H.
Arch. Virol. 143, 127-143, 1998
A;Title: Analygis of genetic information of an insect picorna-like virus, infectious fla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A.Accession: T00327
A.Status: translated from GB/EMBL/DDBJ
A.Molecule type: genomic RNA
A.Molecule type: genomic RNA
A.Residues: 1-3085 <18A>
A.Cxoss-references: UNIFROT:070710; UNIPARC:UP100000F1097; EMBL:AB000906; NID:g3025414;
C.Keywords: polyprotein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Riburton, J.
Submitted to the EMBL Data Library, June 1996
A;Reference number: 219618
A;Reference number: 219618
A;Status: pre-liminary; translated from GB/EMBL/DDBJ
A;Residues: pre-liminary; translated from GB/EMBL/DDBJ
A;Residues: 1-3871 <WIL>
A;Residues: 1-3871 <WIL>
A;Residues: clone F56H9
A;Experimental source: clone F56H9
B;Smye, R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Reference number: 220376
A;Accession: T27494
A;Accession: T27494
A;Accession: T27494
A;Accession: T27494
A;Accession: T27494
A;Accession: T27494
A;Residues: DNA
A;Residues: 1-3871 <WI2>
A;Cross-references: UNIPARC:UPI00000821EA; EMBL:Z74046; PIDN:CAA98557.1; GSPDB:GN00023; A;Genetics:
A;Genetics:
A;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Map position: 5
A;Introns: 29/3; 66/2; 244/1; 359/3; 422/1; 549/1; 572/1; 728/1; 820/1; 889/3; 1189/1; 2763/1; 2809/1; 2906/3; 3051/3; 3176/1; 3241/2; 3536/1; 3565/2; 3582/3; 3609/1; C;Superfamily: intrinsic factor-B12 receptor cubilin; EGF homology
                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                Species: infectious flacherie virus
Date: 23-Apr-1999 #sequence_revision 23-Apr-1999 #text_change 09-Jul-2004
Accession: T00327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    hypothetical protein ZC116.3 - Caenorhabditis elegans
C;Specise: Caenorhabditis elegans
C;Date: 15-Oct.1999 #sequence_revision 15-Oct.1999 #text_change 09-Jul-2004
C;Accession: T22812; T27494
                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                  Length 2025;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        55.6%; Score 5; DB 2; Length 3085; 100.0%; Pred. No. 6.5e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 55.6%; Score 5; DB 2; Length 3871; Best Local Similarity 100.0%; Pred. No. 7.7e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A; Reference number: Z14139; MUID:98166871; PMID:9505971
                        55.6%; Score 5; DB 2; Lence 100.0%; Pred. No. 4.7e+02; ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             submitted to the EMBL Data Library, June 1996
                                                                                                                                                                                                                                                                                                                                                       polyprotein - infectious flacherie virus
Query Match
Best Local Similarity 100.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity 100.
Matches 5; Conservative
                                                                                                                                                                                                         1432 TFYYV 1436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |||||
1175 VDDTF 1179
                                                                                                                                              5 TPYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2 VDDTF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ke) viruses.
                                                                                                                                                                                                                                                                                             RESULT 136
                                                                                                                                              ઠે
                                                                                                                                                                                                   쉱
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠ
```

```
4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Experimental source: venom A; Accession: S71379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Molecule type: protein A;Residues: 2-38 <BA2>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                               Best Local Similarity
                                                                                                                                                                                                             A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-37 <ARN>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               32 KVDD 35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 KVDD 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 KVDD 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Accession: S71381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KVDD
                                                                                                                                                                                                                                                                                                                                                               A;Gene: TM1299
                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                          C, Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C; Species: Mus musculus (house mouse)
C; Species: Mus musculus (house mouse)
C; Date: 26-Jul-1996 #sequence_revision 26-Jul-1996 #text_change 09-Jul-2004
C; Accession. I56058
R; Accession. I56058
R; Tokito, S.; Jaulin, C.; Delarbre, C.; Kourilsky, P.; Nakauchi, H.; Gache J. Immunol. 144, 2400-2408, 1990
A; Title: Comparative structure of two duplicated Tla class I genes (Tloc and 37) of the A; Reference number: I56058; MuID:90187889; PMID:1968929
A; Accession: I56058
A; Accession: L56058
A; Accession: L56058
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C;Accession: S21665
R;Peters, J.; Rudolf, S.; Oschkinat, H.; Mengele, R.; Sumper, M.; Kellermann, J.; Lottsp. Biol. Chem. Hoppe-Seyler 373, 171-176, 1992
A;Title: Evidence for tyrosine-linked glycosaminoglycan in a bacterial surface protein. A;Reference number: S21665; MUID:92281680; PMID:1596358
                                               A;Status: preliminary; nucleic acid sequence not shown; translation not shown A;Molecule type: DNA A;Residues: 1-33 <TOM> A;Residues: 1-33 <TOM> A;Residues: UNIPROT:024945; UNIPARC:UPI00000C07A2; GB:AE000535; GB:AE000511; NID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A,Molecule type: DNA,
A,Residues: 1-37 - RES.
A,Residues: 1-37 - RES.
A,Cross-references: UNIPROT:Q31130; UNIPARC:UPI000008A63F; GB:M34072; NID:g623439; PIDN:
C,Superfamily: class I histocompatibility antigen; immunoglobulin homology
C,Reywords: glycoprotein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ;
0
                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |Species: Mus musculus (house mouse)
| Species: 26-Unl-1996 #sequence_revision 26-Jul-1996 #text_change 09-Jul-2004
| Accession: 156058
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S-layer protein - Acetogenium kivui
C;Species: Acetogenium kivui
C;Date: 19-Mar-1997 #sequence_revision 19-Mar-1997 #text_change 24-Jul-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     E72269
hypothetical protein - Thermotoga maritima (strain MSB8)
C;Species: Thermotoga maritima
C;Date: 11-Jun-1999 #sequence_revision 11-Jun-1999 #text_change 09-Jul-2004
                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                  0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0; Indels
                                                                                                                                                                               Query Match
44.4%; Score 4; DB 2; Length 33;
Best Local Similarity 100.0%; Pred. No. 2.8e+02;
Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  44.4%; Score 4; DB 2; Length 37; 100.0%; Pred. No. 3.1e+02; cive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 37;
A; Reference number: A64520; MUID: 97394467; PMID: 9252185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 2; Len
. 3.1e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
44.4%; Score 4; DB 2
Best Local Similarity 100.0%; Pred. No. 3.1
Matches 4; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                               cell surface glycoprotein - mouse (fragment)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Cross-references: UNIPARC: UPI000017A8BF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity 100.0
Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Status: preliminary
A;Molecule type: protein
A;Residues: 1-37 <PET>
                                                                                                                                                                                                                                                                                                                          11 TFYY 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  18 VDDT 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               26 KVDD 29
                                                                                                                                                                                                                                                                                  5 TFYY 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2 VDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 KVDD 4
                          A; Accession: C64536
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 143
                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
```

```
C;Accession: E72269
R;Nelson, K.E.; Clayton, R.A.; Gill, S.R.; Gwinn, M.L.; Dodson, R.J.; Haft, D.H.; Hickey
Garrett, M.M.; Stewart, A.M.; Cotton, M.D.; Pratt, M.S.; Phillips, C.A.; Richardson, D.
                                                                                                                                                        Nature 399, 323-329, 1999
A;Title: Evidence for lateral gene transfer between Archaea and Bacteria from genome seq
A;Reference number: A72200; MUID:99287316; PMID:10360571
A;Accession: E72269
                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Cross-references: UNIPROT:Q9X125; UNIPARC:UPI00000C12B9; GB:AE001785; GB:AE000512; NID
A;Experimental source: strain MSB8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    C;Species: Vipera lebetina
C;Species: Vipera lebetina
C;Date: 11.Mar-1998 #squence_revision 17-Apr-1998 #text_change 09-Jul-2004
C;Accession: S71381; S71379
R;Barbouche, R.; Marrakchi, N.; Mansuelle, P.; Krifi, M.; Fenouillet, E.; Rochat, H.; El RSBs Lett. 392, 6-10, 1996
A;Title: Novel anti-platelet aggregation polypeptides from Vipera lebetina venom: isolat A;Reference number: S71379; MUID:96354866; PMID:8769304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RiRead, T.D.; Brunham, R.C.; Shen, C.; Gill, S.R.; Heidelberg, J.F.; White, O.; Hickey, C.; Dodson, R.; Gwinn, M.; Nelson, W.; DeBoy, R.; Kolonay, J.; McClarty, G.; Salzberg, Nucleic Acids Res. 28, 1397-1406, 2000
A;Title: Genome sequences of Chlamydia trachomatis MoPn and Chlamydia pneumoniae AR39.
A;Reference number: A81500; MUID:20150255; PMID:10684935
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           hypothetical protein TC0307 [imported] - Chlamydia muridarum (strain Nigg) C;Species: Chlamydia muridarum, Chlamydia trachomatis MoPn C;Date: 31-Mar-2000 #sequence_revision 31-Mar-2000 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         44.4%; Score 4; DB 2; Length 37; 100.0%; Pred. No. 3.1e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 38;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Molecule type: protein
A;Residues: 1-38 <BAR>
A;Cross-references: UNIPROT:Q7LZ09; UNIPARC:UPI0000030733
A;Experimental source: venom
A;Accession: S71382
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              44.4%; Score 4; DB 2; Len ilarity 100.0%; Pred. No. 3.1e+02; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A, Experimental source: venom
C, Keywords: anticoagulant; venom
F,14-30/Disulfide bonds: #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Molecule type: protein
A;Residues: 1-13 <BA3>
A;Cross-references: UNIPARC:UPI000033072F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              lebetin 2 isoform alpha - Vipera lebetina
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Cross-references: UNIPARC: UPI0000030734
```

```
phospholipase A2 homolog, non-pancreatic - pig (fragment)
(;Species: Sus scrofa domestica (domestic pig)
(;Date: 31-Dec-1993 #sequence_revision 09-Sep-1994 #text_change 16-Aug-2004
(;Accession: B60718
R;Seilhamer, J.J.; Randall, T.L.; Johnson, L.K.; Heinzmann, C.; Klisak, I.; Sparkes, R. (Cell. Biochem. 39, 327-337, 1999
A;Title: Novel gene exon homologous to pancreatic phospholipase A-2: sequence and chrom A;Reference number: A60718; MUID:89214375; PMID:2708461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     hypothetical protein Vng0788h [imported] - Halobacterium sp. NRC-1
C;Species: Halobacterium sp. NRC-1
C;Accession: B8436
R;NG, W.V.; Kennedy, S.P.; Mahairas, G.G.; Berquist, B.; Pan, M.; Shukla, H.D.; Lasky, i Leithauser, B.; Keller, K.; Cruz, R.; Danson, M.J.; Hough, D.W.; Maddocks, D.G.; Jable Jung, K.H.; Alam, M.; Freitas, T.
Proc. Natl. Acad. Sci. U.S.A. 97, 12176-12181, 2000
A;Authors: Hou, S.; Daniels, C.J.; Dennis, P.P.; Omer, A.D.; Ebhardt, H.; Lowe, T.M.; L. A;Reference number: A84160; MUID:20504483; PMID:11016950
A;Accession: B84236
A;Accession: B84216
A;Accession: A;Accession
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Molecule type: DNA
A;Residues: 1-53 <STO>
A;Cross-references: UNIPROT:Q9HRA4; UNIPARC:UPI00006371D; GB:AE004437; NID:g10580362; 'C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     alpha-amylase (EC 3.2.1.1) 2.54 precursor - wheat (fragment)
C;Species: Triticum aestivum (common wheat)
C;Species: Triticum aestivum (common wheat)
C;Date: 30-Sep-1991 #sequence_revision 30-Sep-1991 #text_change 31-Dec-2004
C;Accession. 365489
R;Huttly, A.K.; Martienssen, R.A.; Baulcombe, D.C.
Mol. Gen. Genet. 214, 232-240, 1988
A;Title: Sequence heterogeneity and differential expression of the alpha--Amy-2 gene famaly A;Reference number: 805486; MUID:89181522; PMID:2467183
A;Accession: 805489
A;Status: translation not shown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 2; Length 50;
5. 3.8e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 53;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Cross-references: UNIPROT:07M333; UNIPARC:UPI0000175895
C;Superfamily: Phospholipase A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            h 44.4%; Score 4; DB 2; I Similarity 100.0%; Pred. No. 4e+02; 4; Conservative 0; Mismatches 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
44.4%; Score 4; DB 2
Best Local Similarity 100.0%; Pred. No. 3.8
Matches 4; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Accession: B60718
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-50 <SEI>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2 VDDT 5
||||
45 VDDT 48
                                                                 45 VDDT 48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S VDDT 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2 VDDT 5
                2 VDDT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Gene: VNG0788H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                ઠે
                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠે
                                                                                                                                              A;Cross-references: UNIPROT:O9PL01; UNIPARC:UPI0000057893; GB:AE002298; GB:AE002160; NID
A;Experimental source: strain Nigg (MoPn)
C;Genetics:
A;Gene: TC0307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               phospholipase A2 homolog, non-pancreatic - human (fragment)
(;Species: Homo sapiens (man)
(;Species: Homo sapiens (man)
(;Date: 14-May-1993 #sequence_revision 14-May-1993 #text_change 16-Aug-2004
(;Accession: A60718
R;Seilhamer, J.J.; Randall, T.L.; Johnson, L.K.; Heinzmann, C.; Klisak, I.; Sparkes, R.S.
J. Cell. Biochem. 39, 327-337, 1989
A;Title: Novel gene exon homologous to pancreatic phospholipase A-2: sequence and chromo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              C; Accession: JH0643
R; Chavrier, P.; Simons, K.; Zerial, M.
R; Reference number: JH0639; MUID:92210010; PMID:1555775
A; Reference number: JH0643
A; Resedues: JH0643
A; Resedues: Lype: mRNA
A; Residues: L-19 cCHA
A; Residues: L-19 cCHA
A; Residues: L-19 cCHA
A; Residues: L-19 cCHA
A; Cross-references: UNIPROT: P35283; UNIPARC: UP10000027C50; GB:M79303
A; Experimental source: kidney
C; Genetics:
A; Gene: rabl3
C; Superfamily: ras transforming protein; translation elongation factor Tu homology
C; Keywords: GTP binding; membrane trafficking; P-loop
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Accession: A60718
A; Status: not compared with conceptual translation
A; Molecule type: DNA
A; Residues: 1-50 <SEI>
A; Cross-references: UNIPROT: Q7M4M6; UNIPARC: UPI0000142253
C; Comment: This genomic fragment is homologous to exon 2 of pancreatic phospholipase A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GTP-binding protein rabl3 - mouse (fragment)
N;Alternate names: rab protein Rabl3
C;Species: Mus musculus (house mouse)
C;Date: 30-Sep-1993 #sequence_revision 30-Sep-1993 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                            ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
44.4%; Score 4; DB 2; Length 49;
Best Local Similarity 100.0%; Pred. No. 3.8e+02;
Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                    0; Indels
                                                                                                                                                                                                                                                                                                                                                  44.4%; Score 4; DB 2; Length 46; 100.0%; Pred. No. 3.6e+02; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match

44.4%; Score 4; DB 2; Length 50;
Best Local Similarity 100.0%; Pred. No. 3.8e+02;
Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Map position: 1
C;Superfamily: Phospholipase A2
                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity 100.0
Matches 4; Conservative
                                                                         A; Molecule type: DNA
A; Residues: 1-46 <TET>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ||||
|DDTF 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       27 TFYY 30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5 TFYY 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3 DDTF 6
A; Accession: B81717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠે
```

```
A; Molecule type: DNA
A; Residues: 1-58 <hr/>
A; Cross-references: UNIPROT:P11786; UNIPARC:UPI0000175A39; EMBL:X13580
A; Genetics:
A; Gene: amy2
A; Map position: 7A
A; Introns: 29/3
C; Function:
A; Description: catalyzes the hydrolysis of internal 1,4-alpha-D-glucosidic bonds
A; Backway: glycogen/starch degradation
C; Superfamily: alpha-amylase, plant type; alpha-amylase core homology
C; Keywords: glycosidase; hydrolase; polysaccharide degradation
                                                                                                                                                                                                                                                                                                                                                                                                                    0; Gaps
                                                                                                                                                                                                                                                                                                                                                       Query Match 44.4%; Score 4; DB 2; Length 58; Best Local Similarity 100.0%; Pred. No. 4.3e+02; Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 KVDD 4
|||||
49 KVDD 52
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                q
```

Search completed: May 17, 2006, 06:28:04 Job time : 59.5 secs

ó

```
Sequence 32, Appl Sequence 1275, Appl Sequence 11767, A Sequence 12279, A Sequence 16044, A Sequence 20875, A Sequence 20875, A Sequence 8469, Ap Sequence 6697, A Sequence 6697, A Sequence 6697, A Sequence 20878, A
                                                                                                                                                                                                                                                                                                                       17363, A
2, Appli
4, Appli
6, Appli
8, Appli
                                                                                                                                                                                                                                                                                                                                                                                                                                             Appli
Appli
Appli
Appli
Appli
Appli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Appl
Appli
A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 42083, A
Sequence 27976, A
Sequence 82, Appl
                                Sequence
Sequence
Sequence
                                                                                                    Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Seq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Seq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
US-10-414-609-2
US-10-114-609-4
US-10-114-609-4
US-10-113-332-1
US-10-113-332-3
US-09-198-452A-720
US-09-198-452A-720
US-09-28-186A-182
US-09-28-186A-192
US-09-134-001C-4435
US-09-134-109-10
US-09-139-1395A-1
US-09-139-139-139-10
US-09-139-139-132-10
US-09-139-139-132-10
US-09-139-139-132-10
US-09-139-135A-174-4
US-09-134-001C-4697
US-09-134-001C-4011767
US-09-134-001C-4697
US-09-134-001C-4697
US-09-134-001C-4697
US-09-134-001C-4697
US-09-134-001C-4011767
U
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 10751, App
Sequence 1425, App
Sequence 346, App
Sequence 346, App
Sequence 23, Appl
Sequence 23, Appl
Sequence 60895, Appl
Sequence 2, Appli
Sequence 2, Appli
Sequence 56930, A
Sequence 56930, A
Sequence 27344, A
Sequence 2734, Appl
Sequence 2734, Appl
Sequence 2732, Appl
Sequence 787, Appl
Sequence 787, Appl
Sequence 787, Appl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 787, App
Sequence 3091, A
Sequence 6685, Ap
Sequence 9786, Ap
Sequence 9786, Ap
Sequence 34, Appli
Sequence 2, Appli
Sequence 2, Appli
Sequence 2, Appli
Sequence 4, Appli
Sequence 4, Appli
                                                                                                                                                         ; Search time 37 Seconds (without alignments) 21.291 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Issued Patents AA:*
:: / EMC Celerra SIDS3/ptodata/2/iaa/5 COMB.pep:*
:: / EMC Celerra SIDS3/ptodata/2/iaa/6 COMB.pep:*
:: / EMC Celerra SIDS3/ptodata/2/iaa/7 COMB.pep:*
:: / EMC Celerra SIDS3/ptodata/2/iaa/H COMB.pep:*
:: / EMC Celerra SIDS3/ptodata/2/iaa/H COMB.pep:*
:: / EMC Celerra SIDS3/ptodata/2/iaa/R COMB.pep:*
:: / EMC Celerra SIDS3/ptodata/2/iaa/RE COMB.pep:*
:: / EMC Celerra SIDS3/ptodata/2/iaa/RE COMB.pep:*
:: / EMC Celerra SIDS3/ptodata/2/iaa/RE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Description
                    GenCore version 5.1.8
Copyright (c) 1993 - 2006 Biocceleration Ltd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-10-414-759-4
US-10-123-058-2
US-10-123-058-4
                                                                                                                                                                                                                                                                                                                                                                                                                                   650591 segs, 87530628 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Post-processing: Listing first 1000 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SUMMARIES
                                                                                                                protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                          OLIGO
Gapop 60.0 , Gapext 60.0
                                                                                                                                                              06:28:51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             seq length: 0
seq length: 200000000
                                                                                                                                                                                                                                                        US-10-764-985-2
9
1 KVDDTFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB
                                                                                                                                                                May 17, 2006,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query
                                                                                                                                                                                                                                                                                                                                                       Scoring table:
                                                                                                                                                                                                                                                           Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Minimum DB e
Maximum DB e
                                                                                                              OM protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Word size
                                                                                                                                                                                                                                                                                                             Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Database
                                                                                                                                                              Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Result
No.
```

- 3
ä
Ĥ
٠
_
ч
Н
6
٦.
•
3
1
S
-,
œ
_
•
4
യ
<u> 2</u>
•.
•
0
ġ
_
ı
18
ä
_

sequence 103, App Sequence 28, Appl Sequence 101, Appl Sequence 101, App Sequence 101, App Sequence 195, Appl Sequence 195, Appl	9000	191		a a		40 40	equence 13720, equence 5, App.	Φ 4	υo	OΦ	equence 20, Apr equence 21, Apr	o o	o o	OΦ				Sequence 2, Appli Sequence 10, Appl	a) a)		മെ	Sequence 9, App] Sequence 10, App	equence 9, App.	1 40 4	e 1276	e 457,		e 75,	ກີດີ	e 83,	e 86,	equence 89, Appl equence 90, Appl	e 102,	ence 1	ence 127, ence 128,
PCT-US93-07545-103 Seq US-09-202-1618-28 Seq US-08-293-778-5 Seq US-08-480-190-101 Seq US-08-480-190-195 Seq US-08-480-130-195 Seq US-08-488-379-101 Seq US-08-488-379-101 Seq	94-195 9A-101 9A-195 5A-101	5A-195 S 45-101 S	45-195 S 7-5	3B-55	7-59590 5 6A-4 8	6A-35 S	0-13720 S 0-5 S	5-153 S	7-8 7-8	6-1 6-19 S	6-20 S 6-21 S	27.5	6-24 S 6-25 S	6-35 9-1	1-1 0-1	2-2 7A-1	7A-6 9-121	5H-2 5H-10	9-9 9-10	6-9 6-10	6-9 6-10	7-9 7-10	60-9 80-10	7-32185 S	0-12760	9B-85 S	0-62 S 0C-70 S	0C-75 SC 75	0C-78 SC-79	0C-83 S	00-86 86 8	S 62-80 S - 80 S - 80	0C-102 S	0C-107 S	US-08-086-630C-127 Seque US-08-086-630C-128 Seque
																													- r	11		11			44
2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	33333	233	25	7 8 F	W W (3 6	38 41	41	4 4 4 4 4 4 4 4 4	4 4 4 4	4 4 4 4	4.	4 4 4 4	4 4 4 4	4 4 4 4	45	47	47	4, 4, 60, 60	4 4 8 8	4.4 4.0 6.0	4 4 8	4, 4 80 80	22.0	133	28 6	20 00	80 0	20 00	20 00	8 6	288	20 to	23 0	28 8
4 4 <td>* * * * * * * * * * * * * * * * *</td> <td>4 4 4</td> <td>4 4 4</td> <td>4 4</td> <td>4 4 4</td> <td>44.4.4</td> <td>4. 4. 4. 4.</td> <td>4.44</td> <td>. 4 . 4 . 4</td> <td>4.4. 4.4.</td> <td>4 4 4 4.</td> <td>4.4</td> <td>4 4 4 4 4</td> <td>4 4 4. 4. 4.</td> <td>4. 4. 4. 4.</td> <td>44 4.4 4.4</td> <td>44 44.4</td> <td>4 4 4 4 . 4 4 . 4 .</td> <td>44. 44. 4.</td> <td>4 4 4 4 4 7</td> <td>4. 4. 4. 4.</td> <td>4.4 4.4 4.4</td> <td>4.44</td> <td>4.4</td> <td>4.4.</td> <td>44.4</td> <td>4. 4. 4. 4.</td> <td>44.4</td> <td>4.4.4.4.4</td> <td>44.4</td> <td>44.4</td> <td>44. 44.4</td> <td>4.4</td> <td>44.4</td> <td>4 4 4 4 4 4</td>	* * * * * * * * * * * * * * * * *	4 4 4	4 4 4	4 4	4 4 4	44.4.4	4. 4. 4. 4.	4.44	. 4 . 4 . 4	4.4. 4.4.	4 4 4 4.	4.4	4 4 4 4 4	4 4 4. 4. 4.	4. 4. 4. 4.	44 4.4 4.4	44 44.4	4 4 4 4 . 4 4 . 4 .	44. 44. 4.	4 4 4 4 4 7	4. 4. 4. 4.	4.4 4.4 4.4	4.44	4.4	4.4.	44.4	4. 4. 4. 4.	44.4	4.4.4.4.4	44.4	44.4	44. 44.4	4.4	44.4	4 4 4 4 4 4
य य य य य य य	ਰਾ ਚਾ ਚਾ	44	44.	44	44.	4 4	44	44	r 4	4 4	4 4	4.	44	44	44	44	4 4	44	4 4	4 4	4 4	4 4	4 4	'বাব	4.	4 4	4 4	4 <	4 4	4 4	4.	ጥ ጥ	4 4	r 4	4 4
173 174 175 176 177					• •	- 0	ω 4 .	יט ע	2.0	8 6 6 6	00		o ò	05 06	ÖÖ	209 210	211	213 214	215 216	217 218	219 220	221 222	223	225	227	NN	230 231	m	234	200	237	238 239	240	1 4	243
	~ @ @ @	183	2000	188	1867	19	19	119	3 2	AA	0 0	100	N 01	0.0	N N	.,,,,	.,,,																		
2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	99, Appl 1/ 4, Appli 18 22, Appl 18	23, Appl 18	22, Appl 18	as, Appi	4, Appli 3, Appli 19	520409/ 171, App 19	171, App 1 171, App 1	171, App	97, Appl 1	108, App 1 97, Appl 1	108, App 65, Appl	65, Appl	97, Appi 108, App	97, Appl 108, App	65, Appl 97, Appl	108, App 106, App	106, App 106, App	106, App 4, Appli	9 2	95	94	94	10	30,	104, Ap	93, App 104, Ap	93, Appl 104, App	93, Appl	104, App 93, Appl	Sequence 104, App Patent No. 5204097	92,	103, 92,	103,	103,	92, 103,
Sequence 10, Sequence 22 Sequence 90 Sequence 99 Sequence 23 Sequence 23	Sequence 90, Appl 1/ Sequence 99, Appl 18 Sequence 4, Appli 18 Sequence 22, Appl 18	Sequence 23, Appl 18	Sequence 23, Appl 18	Sequence 3, Appli	Sequence 4, Appli 18 Sequence 3, Appli 19	Sequence 171, App 19	Sequence 171, App 1 Sequence 171, App 1	Sequence 171, App	Sequence 97, Appl	Sequence 108, App 1 Sequence 97, Appl 1	Sequence 108, App Sequence 65, Appl	Sequence 65, Appl	Sequence 97, Appl Sequence 108, App	Sequence 97, Appl Sequence 108, App	Sequence 65, Appl Sequence 97, Appl	Sequence 108, App Sequence 106, App	Sequence 106, App Sequence 106, App	Sequence 106, App Sequence 4, Appli	Sequence 10 Sequence 94	Sequence 10 Sequence 94	Sequence 10 Sequence 94	Sequence 10 Sequence 94	Sequence 10	Sequence 10	Sequence 104, Ap	Sequence 93, App Sequence 104, App	Sequence 93, Appl Sequence 104, App	Sequence 93, Appl	Sequence 104, App Sequence 93, Appl	Sequence 104 Patent No. 52	Sequence 92,	Sequence 103, Sequence 92,	Sequence 103,	Sequence 103,	
2 2 US-09-949-016-10490 Sequence 10. 6 2 US-09-747-408-22 Sequence 22. 7 2 US-09-996-288-23 Sequence 23. 7 2 US-09-996-288-99 Sequence 90. 7 2 US-09-996-265-23 Sequence 23. 7 2 US-09-996-265-50 Sequence 23.	2 US-09-996-265-99 Sequence 90, Appl 1/ 2 US-10-996-263-4 Sequence 4, Appli 18 1 US-08-166-195A-22 Sequence 22, Appli 18	1 US-08-166-195A-23 Sequence 23, Appl 18-08-456-772-22 Sequence 22, Appl 18	1 US-08-436-7/2-23 Sequence 23, Appl 18 1 US-08-436-883B-22 Sequence 22, Appl 18 1 US-08-436-883B-22 Sequence 22, Appl 18	2 US-09-20-825-823 Sequence 3, Appl 18	2 US-09-200-757-4 Sequence 4, Appli 18 US-07-712-476A-3 Sequence 3, Appli 19	/ 520409/-4 1 US-08-480-190-171 Sequence 171, App 19	1 US-08-488-379-171 Sequence 171, App 1 2 US-08-475-399A-171 Sequence 171, App 1	2 US-08-077-255A-171 Sequence 171, App 1	1 US-08-480-190-97 Sequence 97, Appl 1	1 US-08-480-190-108 Sequence 108, App 1 1 US-08-488-379-97 Sequence 97, Appl 1	1 US-08-488-379-108 Sequence 108, App 1 US-08-672-345C-65 Sequence 65, Appl	2 US-09-214-095D-65 Sequence 65, Appl	2 US-08-475-399A-97 Sequence 97, Appl 2 US-08-475-399A-108 Sequence 108, App	2 US-08-077-255A-97 Sequence 97, Appl 2 US-08-077-255A-108 Sequence 108, App	2 US-09-940-727B-65 Sequence 65, Appl 5 PCT-US93-07545-97 Sequence 97, Appl	5 PCT-US93-07545-108 Sequence 108, App 1 US-08-480-190-106 Sequence 106, App	1 US-08-488-379-106 Sequence 106, App 2 US-08-475-399A-106 Sequence 106, App	2 US-08-077-255A-106 Sequence 106, App 2 US-09-612-925H-4 Sequence 4, Appli	5 PCT-US93-07545-106 Sequence 10 1 US-08-480-190-94 Sequence 94	1 US-08-480-190-105 Sequence 10 1 US-08-488-379-94 Sequence 94	1 US-08-488-379-105 Sequence 10 2 US-08-475-399A-94 Sequence 94	2 US-08-475-399A-105 Sequence 10 2 US-08-077-255A-94 Sequence 94	2 US-08-077-255A-105 Sequence 10 5 PCT-US93-07545-94 Sequence 94	5 PCT-US93-07545-105 Sequence 10	1 US-08-480-190-104 Sequence 104, Apr	1 US-08-488-379-104 Sequence 104, App	2 US-08-475-399A-93 Sequence 93, Appl 2 US-08-475-399A-104 Sequence 104, App	2 US-08-077-255A-93 Sequence 93, Appl	2 US-UV-7-255A-104 Sequence 104, App 5 PCT-US93-07545-93 Sequence 93, Appl	5 PCT-US93-07545-104 Sequence 104 7 5204097-3 Patent No. 52	1 US-08-480-190-92 Sequence 92,	1 US-08-480-190-103 Sequence 103, 1 US-08-488-379-92 Sequence 92,	1 US-08-488-379-103 Sequence 103, 2 US-08-475-399A-92 Semience 92.	2 US-08-475-399A-103 Sequence 103,	2 US-08-077-255A-92 Sequence 92, 2 US-08-077-255A-103 Sequence 103,
US-09-949-016-110490 Sequence 10. US-09-747-408-22 Sequence 2.2 US-09-996-288-23 Sequence 2.3 US-09-996-288-99 Sequence 90 US-09-996-288-99 Sequence 23 US-09-996-265-23 Sequence 2.3 US-09-996-265-90 Sequence 2.3	2 US-09-996-265-99 Sequence 90, Appl 1/ 2 US-10-996-263-4 Sequence 4, Appli 18 1 US-08-166-195A-22 Sequence 22, Appli 18	1 US-08-166-195A-23 Sequence 23, Appl 18-08-456-772-22 Sequence 22, Appl 18	1 US-08-436-7/2-23 Sequence 23, Appl 18 1 US-08-436-883B-22 Sequence 22, Appl 18 1 US-08-436-883B-22 Sequence 22, Appl 18	2 US-09-20-825-823 Sequence 3, Appl 18	2 US-09-200-757-4 Sequence 4, Appli 18 US-07-712-476A-3 Sequence 3, Appli 19	/ 520409/-4 1 US-08-480-190-171 Sequence 171, App 19	1 US-08-488-379-171 Sequence 171, App 1 2 US-08-475-399A-171 Sequence 171, App 1	2 US-08-077-255A-171 Sequence 171, App 1	1 US-08-480-190-97 Sequence 97, Appl 1	1 US-08-480-190-108 Sequence 108, App 1 1 US-08-488-379-97 Sequence 97, Appl 1	1 US-08-488-379-108 Sequence 108, App 1 US-08-672-345C-65 Sequence 65, Appl	2 US-09-214-095D-65 Sequence 65, Appl	2 US-08-475-399A-97 Sequence 97, Appl 2 US-08-475-399A-108 Sequence 108, App	2 US-08-077-255A-97 Sequence 97, Appl 2 US-08-077-255A-108 Sequence 108, App	2 US-09-940-727B-65 Sequence 65, Appl 5 PCT-US93-07545-97 Sequence 97, Appl	5 PCT-US93-07545-108 Sequence 108, App 1 US-08-480-190-106 Sequence 106, App	1 US-08-488-379-106 Sequence 106, App 2 US-08-475-399A-106 Sequence 106, App	2 US-08-077-255A-106 Sequence 106, App 2 US-09-612-925H-4 Sequence 4, Appli	5 PCT-US93-07545-106 Sequence 10 1 US-08-480-190-94 Sequence 94	1 US-08-480-190-105 Sequence 10 1 US-08-488-379-94 Sequence 94	1 US-08-488-379-105 Sequence 10 2 US-08-475-399A-94 Sequence 94	2 US-08-475-399A-105 Sequence 10 2 US-08-077-255A-94 Sequence 94	2 US-08-077-255A-105 Sequence 10 5 PCT-US93-07545-94 Sequence 94	5 PCT-US93-07545-105 Sequence 10	1 US-08-480-190-104 Sequence 104, Apr	1 US-08-488-379-104 Sequence 104, App	2 US-08-475-399A-93 Sequence 93, Appl 2 US-08-475-399A-104 Sequence 104, App	2 US-08-077-255A-93 Sequence 93, Appl	2 US-UV-7-255A-104 Sequence 104, App 5 PCT-US93-07545-93 Sequence 93, Appl	5 PCT-US93-07545-104 Sequence 104 7 5204097-3 Patent No. 52	1 US-08-480-190-92 Sequence 92,	1 US-08-480-190-103 Sequence 103, 1 US-08-488-379-92 Sequence 92,	1 US-08-488-379-103 Sequence 103, 2 US-08-475-399A-92 Semience 92.	2 US-08-475-399A-103 Sequence 103,	2 US-08-077-255A-92 Sequence 92, 2 US-08-077-255A-103 Sequence 103,

us-10-764-985-2.oli.rai

ednence ednence ednence ednence ednence	equence equence equence equence equence	Sequence 128, Appl Sequence 128, Appl Sequence 13, Appl Sequence 24375, A Sequence 24375, A Sequence 26706, A Sequence 20318, A Sequence 50318, A Sequence 50318, A	Sequence 25149, A Sequence 25149, A Sequence 25319, A Sequence 26, Appl Sequence 27, Appl Sequence 27, Appl Sequence 26, Appl Sequence 26, Appl Sequence 26, Appl Sequence 26, Appl Sequence 27, Appl	Sequence 4535, Ap Sequence 38346, A Sequence 3140, App Sequence 26, Appl Sequence 77, Appl Sequence 97, Appl Sequence 91, Appl Sequence 131, Appl Sequence 21, Appl Sequence 21, Appl Sequence 21, Appl Sequence 21, Appl Sequence 21, Appl	Sequence 21, Appl Sequence 21, Appl Sequence 2643, A Sequence 22480, A Sequence 13912, A Patent No. 5204097 Sequence 7990, Appl Sequence 7990, Appl Sequence 42826, Appl Sequence 228146, A Sequence 228146, A Sequence 228146, A	Sequence 37, Appl Sequence 37, Appl Sequence 37, Appl Sequence 37, Appl Sequence 27, Appl Sequence 26234, A Sequence 27, Appl Sequence 2, Appli Sequence 2, Appli Sequence 6407, Ap Sequence 6407, Ap Sequence 6407, Ap Sequence 6407, Ap Sequence 6407, Ap
US-08-086-328C-268 US-08-086-328C-269 US-08-086-328C-273 US-08-086-328C-278 US-08-086-328C-278 US-08-086-328C-279 US-08-086-328C-279	US-08-086-328C-283 US-08-086-328C-284 US-08-086-328C-288 US-08-086-328C-293 US-08-086-328C-293 US-08-086-328C-293	US-09-141-9848-85 US-09-215-221-13 US-09-210-767-62045 US-09-248-796A-24375 US-09-248-796A-26706 US-09-248-796A-21018 US-09-513-9990-5256	US-09-248-796A-25149 US-09-248-796A-25119 US-09-2148-25119 US-08-511-485-26 US-08-511-485-27 US-09-201-936-26 US-09-011-356-27 US-09-011-356-27 US-09-011-356-27 US-09-011-356-27 US-09-011-356-27 US-09-011-356-27 US-09-011-356-27 US-09-011-356-27 US-09-011-356-27 US-09-011-356-27	US-09-583-110-4535 US-09-270-76-75-58346 US-09-107-433-3140 US-09-654-743-27 US-09-654-743-79 US-09-654-743-91 US-09-654-743-91 US-09-654-743-91 US-08-358-160-131 US-08-358-160-131 US-08-358-160-131 US-08-358-160-131 US-08-358-160-131 US-08-358-160-131 US-08-358-160-131	US-09 US-09 US-09 US-09 US-09 US-09 US-09 US-09 US-09	US-09-398-395A-37 US-09-891-395A-37 US-09-895-752-37 US-09-903-012B-37 US-09-200-797-37 US-09-248-796A-26234 US-09-248-796A-22256 US-09-248-796A-22256 US-08-656-811A-2 US-09-21-976-6407 US-09-671-976-6407 US-09-770-767-60407 US-09-732-210-345
						7772 7772 7772 7772 7772 7772 7772 777
	प प	* • • • • • • • • • • • • • • • • • • •		~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~		य प्रवास के व्यवस्थ के क्षेत्र के किया के किया विश्व के किया के किया विश्व के किया किया के
319 320 322 322 328 328	326 328 3329 331	9 B B B B B B B B B B B B B B B B B B B	34 4 4 4 2 2 3 4 4 4 2 2 3 4 4 4 5 5 4 4 6 6 6 6 6 6 6 9 5 9 5 9 5 9 5 9 5 9 5 9	352 354 355 356 356 359 361 361	8 6 4 8 6 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	3.7.7 3.7.7 3.80 3.88 3.88 3.88 3.90 3.90
App App App App App App	App App App App App	App App App App Appl Appl Appl Appl	Appl Appl Appl Appl Appl Appl Appl Appl	Appl Appl Appl Appl App App App A	App App App App App App App App App App	ላይት ለው አምም አምም አምም አምም አምም አምም አምም አምም አምም አም
quence 130 quence 163 quence 164 quence 165 quence 166 quence 246 quence 246	equence 254 equence 255 equence 259 equence 260 equence 262 equence 265 equence 265 equence 265	equence 288 equence 283 equence 283 equence 19, equence 20, equence 21, equence 23,	aquence 32, aguence 49, aquence 54, aquence 58, aquence 58, aquence 58, aquence 73, aquence 73, aquence 75, aquenc	aquence 77, aquence 87, aquence 89, aquence 90, aquence 91, aquence 97, aquence 103, aquence 104, aquence 108, aquence 108	adnence	sequence 201, sequence 211, sequence 231, sequence 231, sequence 237, sequence 237, sequence 252, sequence 255, se
US-08-086-630C-130 US-08-086-630C-163 US-08-086-630C-164 US-08-086-630C-166 US-08-086-630C-166 US-08-086-630C-251	US-08-086-630C-254 US-08-086-630C-255 US-08-086-630C-259 US-08-086-630C-260 US-08-086-630C-262 US-08-086-630C-265	US-08-086-630C-278 US-08-086-630C-282 US-08-086-630C-283 US-08-086-328C-19 US-08-086-328C-21 US-08-086-328C-21 US-08-086-328C-22 US-08-086-328C-22	US-08-086-328C-32 US-08-086-328C-49 US-08-086-328C-54 US-08-086-328C-55 US-08-086-328C-55 US-08-086-328C-59 US-08-086-328C-73 US-08-086-328C-74 US-08-086-328C-75	US-08-08-328C-77 US-08-086-328C-87 US-08-086-328C-89 US-08-086-328C-90 US-08-086-328C-97 US-08-086-328C-97 US-08-086-328C-103 US-08-086-328C-103 US-08-086-328C-103 US-08-086-328C-103	15.08-086-328C-119 15.08-086-328C-112 15.08-086-328C-113 15.08-086-328C-114 15.08-086-328C-150 15.08-086-328C-151 15.08-086-328C-155 15.08-086-328C-155 15.08-086-328C-198 15.08-086-328C-198 15.08-086-328C-198 15.08-086-328C-200	US-08-086-328C-211 US-08-086-328C-221 US-08-086-328C-221 US-08-086-328C-231 US-08-086-328C-233 US-08-086-328C-234 US-08-086-328C-234 US-08-086-328C-252 US-08-086-328C-255 US-08-086-328C-255 US-08-086-328C-256 US-08-086-328C-256 US-08-086-328C-256 US-08-086-328C-256 US-08-086-328C-266 US-08-086-328C-266 US-08-086-328C-266
		пананана		напапапапапа		ненененененен
ਹਾ ਹਾ ਹਾ ਹਾ ਹਾ ਹ ਹਾ ਹਾ ਹਾ ਹਾ ਹਾ ਹ ਹਾ ਹਾ ਹਾ ਹਾ ਹਾ ਹ ਹਾ ਹਾ ਹਾ ਹਾ ਹ	ਹਾ ਦਾ ਦਾ ਦਾ ਦਾ ਦਾ ਹਾ ਦਾ ਦਾ ਦਾ ਦਾ ਦਾ ਦਾ ਦਾ ਦਾ ਦਾ ਦਾ	. प.	ज ज ज ज ज ज ज ज ज ज ज ज ज ज ज ज ज ज ज ज	य य य य य य य य य य य य य य य य य य य य	ज व च च च च च च च च च च च च च च च च च च च	* * * * * * * * * * * * * * * * * * *
4 4 4 4 6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	260 261 262 263 264 365 366	268 271 271 274 275 276	20 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	9991 9999 9999 9999 9999 9999	305 306 306 308 308 311 311 311 311 311 311 311

	1
'n	ċ
a	υ
1	4
•	
	•
•	١
_	i
٠,	3
7)
_	
c	ı
-	
u	,
ת מ	١
~	
-	×
764	
v)
_	
٠.	
•	
c	>
Ë	i
ı	
77	٠
0	:
6	þ

Sequence 2968, Ap Sequence 46883, A Sequence 46883, A Sequence 53545, A Sequence 53545, A Sequence 51545, A Sequence 515																												equence	quence	equence	ednence	equence	edneuce	quence	ednence	equence	Sequence 11050, A Sequence 5312, Ap
US-09-134-001C-2968 US-09-270-767-38328 US-09-270-767-46883 US-09-270-767-5345 US-09-344-587-9	US-10-104-04/-3819 US-09-134-000C-6275 US-09-248-796A-21440 US-09-902-540-15352	US-07-988-273-5 US-08-672-345C-106 US-09-270-767-48038	US-09-726-219A-217 US-09-196-522-217	PCT-US93-12019-5 US-08-936-165A-347	US-08-524-757-4 US-08-524-757-10	US-09-513-999C-8071 US-09-513-999C-8072	US-09-902-540-14833 US-09-732-210-660	US-10-104-047-2840 US-09-621-976-7484	US-09-270-767-45419	US-09-513-999C-4290 US-09-187-999-35	US-08-276-852-80 US-08-899-575-80	US-08-899-575-80	US-09-134-000C-3427 PCT-US95-08743-80	US-09-949-016-6592	US-09-550-163-4	US-09-513-999C-4287 US-09-240-274-17	US-09-848-798-17	US-09-270-767-48045	US-09-248-796A-21342 US-09-848-798-145	US-09-543-681A-7608 US-08-936-165A-491	US-09-107-433-3068	US-09-247-155-175	US-09-839-709-2 US-09-732-210-1340	US-09-732-210-1341 US-09-732-210-1352	US-09-543-681A-5501	US-09-270-767-33577 US-09-270-767-48794	US-09-513-999C-7397 US-09-991-181-276	US-09-990-444-276	US-09-903-190-175 US-09-997-333-276	US-09-992-598-276	US-09-989-733-276 US-09-989-726-276	US-09-997-514-276	US-09-997-349-276	US-09-997-653-276	US-09-673-395A-166	US-09-107-532A-5991 US-09-270-767-48505	US-09-902-540-11050 US-09-134-000C-5312 US-09-E40-226-2972
2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2																																					
4444	ተ ተ ተ ተ	4.4.4	4.4	4.4.	4.4.	4.4.	4.4.	4.4.	4.	4. 4.	4.4	4.	4.4.	4.4	. 4	4.4.	4.4	4.4	4.4.	4.4.	4.4	4	4.4.	4 4	4.	4.4.	4.4	4.	4. 4.	4.	. .	4.4	. 4.	4.4	4	4.4.	4 4 4
य य य य य य	यं यं यं	444	44	4 4	44.	4 4	4 4	4 4	4	4 4 2 4	4 4	4	44	4 4	4	4 4	4 4	4.	4 4	4 4 4 4	4 4	4	4 4	4 4	4.	4 4	4 4	4	4 4	44	4 4	4 4	4 4	4 4	4	4 4 4 4 4 4	4 4 4
4 4 4 4 4 4 4 6 6 5 7 6 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	4 7 1 4 7 2 4 7 3	474 474 377	478	479 480	481	483	485 486	487	489	490	492	494	495 496	497	409	500	502	500	206	507	509	511	512	514	516	517	519	521	522	524	526	527	529	530	233	534	535 536 537
347, App 352, App 5255, Ap 3508, Ap	3, AP 26, A 6, Ap Appli	A 11: 11:	! च च																																		
Sequence Sequence Sequence Sequence Sequence																																					
US-09-732-210-347 Sequence US-09-732-210-352 Sequence US-09-513-9996-5255 Sequence US-09-134-001C-3508 Sequence US-09-134-001C-3874 Sequence	-021-9/0-/123 Sequence -248-796A-26326 Sequence -489-013A-9596 Sequence -381-150A-3 Sequence	1-248-796A-23163 Sequence 1-816-977-4 Sequence 1-816-977-8 Sequence	1-334-477-4 Sequence	1-673-809-24 Sequence	-673-809-105 Sequence -248-796A-27490 Sequence	-489-039A-118Z3 Sequence -270-767-3166 Sequence	-073-297-12 -248-796A-23162 Sequence	248-796A-24709 Sequence	-902-540-15017 Sequence	-248-796A-21466 Sequence -248-796A-24736 Sequence	-816-977-23 Sequence -816-977-27 Sequence	-818-112-72 Sequence	-818-111-73 sequence -056-556-72 sequence	072-596-73 Sequence	-334-477-23 Sequence	-334-477-27 Sequence -193-002-73 Sequence	-084-843-72 Sequence -248-796A-27698 Sequence	-905-243-45 Sequence	-248-796A-21520 Sequence	-094-749-2711 -248-796A-25796 Sequence	-513-999C-6190 Seguence -094-749-3258 Seguence	-858-207A-328 Sequence	-248-7504-27204 Sequence	-899-330-10 Sequence -107-532A-5070 Sequence	-756-541-10 Sequence	-3/8-939-44 Sequence -101-464A-657 Sequence	-996-288-21 Sequence -996-265-21 Semience	-270-767-37624 Sequence	-2/0-/5/-52841 sequence -245-511-10 sequence	-888-366-6 Sequence	-270-757A-10 Sequence	-252-991A-20785 Sequence -497-997C-29 Sequence	-214-095D-86 Sequence	-270-767-34919 Sequence -270-767-50136 Sequence	-248-796A-26406 Sequence	-513-999C-7843 sequence -940-727B-86 sequence	-754-918A-11 Sequence -540-236-2670 Sequence -134-0076-2933 Seguence
2 US-09-732-210-347 2 US-09-732-210-352 2 US-09-513-999C-525 2 US-09-134-001C-3508 2 US-09-134-001C-3894 2 US-09-134-001C-3894	2 US-09-021-9/0-/153 Sequence 2 US-09-248-796A-26326 Sequence 2 US-09-489-0394-9596 Sequence 2 US-09-381-150A-3 Sequence	2 US-09-248-796A-23163 Sequence 2 US-08-816-977-4 Sequence 2 US-08-816-977-8 Sequence	2 US-09-334-477-4 Sequence 2 US-09-334-477-8 Sequence	2 US-09-673-809-24 Sequence	2 US-09-6/3-809-105 Sequence US-09-248-7966-27490 Sequence	2 US-09-270-767-31666 Sequence	2 US-09-073-297-12 Sequence 2 US-09-248-796A-23162 Sequence	2 US-09-248-796A-24709 Sequence 2 US-09-471-276-915 Sequence	2 US-09-902-540-15017 Sequence	2 US-09-248-796A-24736 Sequence	2 US-08-816-977-23 Sequence 2 US-08-816-977-27 Sequence	2 US-08-818-112-72 Sequence	2 US-08-818-111-/3 Sequence 2 US-09-056-556-72 Sequence	2 US-09-072-596-73 Sequence 2 US-09-072-967-72 Sequence	2 US-09-334-477-23 Sequence	2 US-09-334-477-27 Sequence 2 US-10-193-002-73 Sequence	2 US-10-084-843-72 Sequence 2 US-09-248-796A-27698 Sequence	2 US-09-905-243-45 Sequence	2 US-09-248-796A-21520 Sequence	2 US-10-094-749-2711 Sequence 2 US-09-248-796A-25796 Sequence	2 US-10-094-749-3258 Segmence	2 US-08-858-207A-328 Sequence	2 US-10-014-012-216 Sequence	2 US-08-899-330-10 Sequence 2 US-09-107-532A-5070 Sequence	2 US-09-756-541-10 Sequence	1 US-U8-3/8-939-44 2 US-10-101-464A-657 Sequence	2 US-09-996-288-21 Sequence 2 US-09-996-265-21 Sequence	2 US-09-270-767-37624 Sequence	2 US-09-2/0-/6/-52841 Sequence 1 US-08-245-511-10 Sequence	1 US-08-888-366-6 Sequence	2 US-09-270-767-43418 Sequence	2 US-09-252-991A-20785 Sequence 2 US-09-497-997C-29 Sequence	2 US-09-214-095D-86 Sequence	2 US-09-270-767-34919 Sequence 2 US-09-270-767-50136 Sequence	2 US-09-248-796A-26406 Sequence	2 US-09-513-999C-7843 Sequence 2 US-09-940-727B-86 Sequence	1 US-07-754-918A-11 Sequence 2 US-09-540-236-2670 Sequence 2 US-09-134-0017-2933 Sequence
US-09-732-210-347 US-09-732-210-352 US-09-513-999C-5255 US-09-134-001C-3508 US-09-134-001C-3874	2 US-09-021-9/0-/153 Sequence 2 US-09-248-796A-26326 Sequence 2 US-09-489-0394-9596 Sequence 2 US-09-381-150A-3 Sequence	2 US-09-248-796A-23163 Sequence 2 US-08-816-977-4 Sequence 2 US-08-816-977-8 Sequence	2 US-09-334-477-4 Sequence 2 US-09-334-477-8 Sequence	90 2 US-09-673-809-24 Sequence	90 2 US-09-6/3-809-105 Sequence US-09-248-7968-27490 Sequence Sequence US-09-248-7967-27490 Sequence	92 2 US-09-489-039A-11823 Sequence	93 2 US-09-073-297-12 Sequence 93 2 US-09-248-796A-23162 Sequence	93 2 US-09-248-796A-24709 Sequence 93 2 US-09-471-276-915 Sequence	94 2 US-09-902-540-15017 Sequence	95 2 US-09-248-796A-24736 Sequence	97 2 US-08-816-977-23 Sequence 97 2 US-08-816-977-27 Sequence	97 2 US-08-818-112-72 Sequence	9/ 2 US-08-818-111-/3 Sequence 97 2 US-09-056-556-72 Sequence	97 2 US-09-072-596-73 Sequence 97 2 US-09-072-967-72 Sequence	97 2 US-09-334-477-23 Sequence	97 2 US-09-334-477-27 Sequence 97 2 US-10-193-002-73 Sequence	97 2 US-10-084-843-72 Sequence 98 2 US-09-248-796A-27698 Sequence	98 2 US-09-905-243-45 Sequence	100 2 US-09-248-796A-21520 Sequence	100 2 US-10-094-749-2711 Sequence 101 2 US-09-248-796A-25796 Sequence	101 2 US-09-513-999C-6190 Sequence 103 2 US-10-094-749-3258 Sequence	104 2 US-08-858-207A-328 Sequence	104 2 US-10-014-012-216 Sequence	105 2 US-08-899-330-10 Sequence 105 2 US-09-107-532A-5070 Sequence	105 2 US-09-756-541-10 Sequence	106 2 US-10-101-464A-657 Sequence	106 2 US-09-996-288-21 Sequence 106 2 US-09-996-265-21 Sequence	107 2 US-09-270-767-37624 Sequence	10/ 2 US-09-2/U-/6/-52841 Sequence	1 US-08-888-366-6 Sequence	108 2 US-09-270-767-43418 Sequence	109 2 US-09-252-991A-20785 Sequence 109 2 US-09-497-997C-29 Semience	110 2 US-09-214-095D-86 Sequence	110 2 US-09-270-767-34919 Sequence 110 2 US-09-270-767-50136 Sequence	110 2 US-09-248-796A-26406 Sequence	2 US-09-513-999C-7843 Sequence 2 US-09-940-727B-86 Sequence	1 US-07-754-918A-11 Sequence 2 US-09-540-236-2670 Sequence 2 US-09-134-0017-2933 Sequence
44.4 79 2 US-09-732-210-347 44.4 79 2 US-09-732-210-352 44.4 80 2 US-09-513-999C-525 44.4 80 2 US-09-134-001C-3508 44.4 82 US-09-134-001C-3804 44.4 82 US-09-134-001C-3804	44.4 84 2 US-09-248-796A-26326 Sequence 44.4 84 2 US-09-248-796A-26326 Sequence 44.4 84 2 US-09-489-039A-9596 Sequence 44.4 87 2 US-09-381-150A-3 Sequence	44.4 87 2 US-09-248-796A-23163 Sequence 44.4 89 2 US-08-816-977-4 Sequence 44.4 89 2 US-08-816-977-8 Sequence	44.4 89 2 US-09-334-477-4 Sequence 44.4 89 2 US-09-334-477-8 Sequence	44.4 90 2 US-09-673-809-24 Sequence	44.4 90 2 US-09-673-809-105 Sequence	44.4 92 2 US-09-270-767-31666 Sequence	44.4 93 2 US-09-073-297-12 Sequence 44.4 93 2 US-09-248-796A-23162 Sequence	44.4 93 2 US-09-248-796A-24709 Sequence 44.4 93 2 US-09-471-276-915 Sequence	44.4 94 2 US-09-902-540-15017 Sequence	44.4 95 2 US-09-248-796A-24736 Sequence	44.4 97 2 US-08-816-977-23 Sequence	44.4 97 2 US-08-818-112-72 Sequence	44.4 97 2 US-09-056-556-72 Sequence	44.4 97 2 US-09-072-596-73 Sequence 44.4 97 2 US-09-072-967-72 Sequence	44.4 97 2 US-09-334-477-23 Sequence	44.4 97 2 US-09-334-477-27 Sequence 44.4 97 2 US-10-193-002-73 Sequence	44.4 97 2 US-10-084-843-72 Sequence	44.4 98 2 US-09-905-243-45 Sequence	44.4 100 2 US-09-248-796A-21520 Sequence	44.4 101 2 US-10-094-749-2711 Sequence	44.4 101 2 US-09-513-999C-6190 Sequence 44.4 103 2 US-10-094-749-3258 Semience	44.4 104 2 US-08-858-207A-328 Sequence	44.4 104 2 US-10-014-012-216 Sequence	44.4 105 2 US-08-899-330-10 Sequence	44.4 105 2 US-09-756-541-10 Sequence	44.4 106 2 US-10-101-464A-657 Sequence	44.4 106 2 US-09-996-288-21 Seguence 44.4 106 2 US-09-996-265-21 Seguence	44.4 107 2 US-09-270-767-37624 Sequence	44.4 108 1 US-08-245-511-10 Sequence	44.4 108 1 US-08-888-366-6 Sequence	44.4 108 2 US-09-270-753A-10 Sequence	44.4 109 2 US-09-252-991A-20785 Sequence 44.4 109 2 US-09-497-997C-29	44.4 110 2 US-09-214-095D-86 Sequence	44.4 110 2 US-09-270-767-34919 Sequence 44.4 110 2 US-09-270-767-50136 Sequence	44.4 110 2 US-09-248-796A-26406 Sequence	44.4 110 2 US-09-513-999U-7843 Sequence	44.4 111 1 US-07-754-918A-11 Sequence 44.4 111 2 US-09-540-236-2670 Sequence 44.4 112 2 US-09-540-236-2670 Sequence
4.4 79 2 US-09-732-210-347 4.4 79 2 US-09-732-210-352 4.4 79 2 US-09-513-999G-5255 4.4 80 2 US-09-134-001C-3508 4.4 82 US-09-134-001C-3874 4.8 82 US-09-134-001C-3874	44.4 84 2 US-09-248-796A-26326 Sequence 44.4 84 2 US-09-248-796A-26326 Sequence 44.4 84 2 US-09-489-039A-9596 Sequence 44.4 87 2 US-09-381-150A-3 Sequence	44.4 87 2 US-09-248-796A-23163 Sequence 44.4 89 2 US-08-816-977-4 Sequence 44.4 89 2 US-08-816-977-8 Sequence	44.4 89 2 US-09-334-477-4 Sequence 44.4 89 2 US-09-334-477-8 Sequence	44.4 90 2 US-09-673-809-24 Sequence	44.4 90 2 US-09-673-809-105 Sequence	44.4 92 2 US-09-270-767-31666 Sequence	44.4 93 2 US-09-073-297-12 Sequence 44.4 93 2 US-09-248-796A-23162 Sequence	44.4 93 2 US-09-248-796A-24709 Sequence 44.4 93 2 US-09-471-276-915 Sequence	44.4 94 2 US-09-902-540-15017 Sequence	44.4 95 2 US-09-248-796A-24736 Sequence	44.4 97 2 US-08-816-977-23 Sequence	44.4 97 2 US-08-818-112-72 Sequence	44.4 97 2 US-09-056-556-72 Sequence	44.4 97 2 US-09-072-596-73 Sequence 44.4 97 2 US-09-072-967-72 Sequence	44.4 97 2 US-09-334-477-23 Sequence	44.4 97 2 US-09-334-477-27 Sequence 44.4 97 2 US-10-193-002-73 Sequence	44.4 97 2 US-10-084-843-72 Sequence	44.4 98 2 US-09-905-243-45 Sequence	44.4 100 2 US-09-248-796A-21520 Sequence	44.4 100 2 US-10-094-749-2711 Sequence 44.4 101 2 US-09-248-796A-25796 Sequence	44.4 101 2 US-09-513-999C-6190 Sequence 44.4 103 2 US-10-094-749-3258 Semience	44.4 104 2 US-08-858-207A-328 Sequence	44.4 104 2 US-10-014-012-216 Sequence	44.4 105 2 US-08-899-330-10 Sequence	44.4 105 2 US-09-756-541-10 Sequence	44.4 106 2 US-10-101-464A-657 Sequence	44.4 106 2 US-09-996-288-21 Seguence 44.4 106 2 US-09-996-265-21 Seguence	44.4 107 2 US-09-270-767-37624 Sequence	44.4 108 1 US-08-245-511-10 Sequence	44.4 108 1 US-08-888-366-6 Sequence	44.4 108 2 US-09-270-753A-10 Sequence	44.4 109 2 US-09-252-991A-20785 Sequence 44.4 109 2 US-09-497-997C-29	44.4 110 2 US-09-214-095D-86 Sequence	44.4 110 2 US-09-270-767-34919 Sequence 44.4 110 2 US-09-270-767-50136 Sequence	44.4 110 2 US-09-248-796A-26406 Sequence	44.4 110 2 US-09-513-999U-7843 Sequence	44.4 111 1 US-07-754-918A-11 Sequence 44.4 111 2 US-09-540-236-2670 Sequence 44.4 112 2 US-09-540-236-2670 Sequence

Sequence 2231, Ap Sequence 35276, A Sequence 15063, A Sequence 203, Appl Sequence 204, Appl Sequence 24, Appl Sequence 1123, Appl Sequence 1123, Appl Sequence 1144, Appl Sequence 22, Appl Sequence 23, Appl Sequence 23, Appl Sequence 213, Appl Sequence 213, Appl Sequence 214, Appl Sequence 2144, Appl	0.0000000000000000000000000000000000000
US-09-540-236-2231 US-09-270-767-35276 US-09-270-767-35276 US-09-270-767-35276 US-09-612-925H-8 US-09-613-996C-8067 US-09-613-996C-8067 US-09-513-996C-8067 US-09-513-996C-8067 US-09-513-996C-8067 US-09-513-996C-8067 US-09-513-996C-8067 US-09-513-996C-8067 US-09-512-56C-24 US-09-512-56C-24 US-09-512-56C-24 US-09-512-56C-24 US-09-512-56C-34 US-09-512-56C-34 US-09-512-56C-34 US-09-512-56C-34 US-09-513-10-4590 US-09-513-146 US-09-513-749-1781 US-09-513-749-1390 US-09-513-76-7133 US-09-513-76-7133 US-09-513-76-7133 US-09-612-954-135 US-09-127-954-136 US-08-127-954-136 US-08-127-954-144 US-08-127-954-145 US-08-127-954-145	
100 100 100 100 100 100 100 100 100 100	
चं च	' प प प प प प प प प प प प प प प प प प प
6113 6113 6113 6113 6113 6113 6113 6113	666 667 667 670 671 673 675 676 676 680 681
· ·	
Sequence	sednence Sed
US-09-583-110-4917 US-09-270-767-32241 US-09-270-767-32241 US-09-270-767-32241 US-09-270-767-32241 US-09-270-767-31203 US-09-270-767-31203 US-09-270-767-31203 US-09-270-767-31279 US-09-270-767-4896 US-09-270-767-4896 US-09-270-767-31279 US-09-2713-299C-42910 US-09-2713-299C-42910 US-09-2713-299C-42910 US-09-2713-270-328 US-09-702-702-328 US-09-583-110-3229 US-09-583-110-3229 US-09-583-110-496 US-09-270-775-6170 US-09-583-110-496 US-09-270-77-61137 US-09-583-110-496 US-09-270-77-61270 US-09-270-77-61270 US-09-270-77-61270 US-09-270-77-61270 US-09-270-77-5324-5617 US-09-270-77-50612 US-09-270-77-50612 US-09-270-77-75-50612 US-09-270-77-75-50612 US-09-270-77-742544 US-09-2818-313	588-947A-23 589-286A-23 589-286A-23 589-285-23 513-999C-4289 489-013A-1269 1134-000C-5250 934-01149-34 1134-000C-5250 1134-000C-5250 1134-000C-5250 1134-000C-5250 1134-00
US-09-19-19-19-19-19-19-19-19-19-19-19-19-19	US-09-1 US-0 US-0 US-0 US-0 US-0 US-0 US-0 US-0
000000000000000000000000000000000000000	00000000000000000000000000000000000000
44448888888888888888888888888888888888	11255 11255
4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4

Sequence 161, App Sequence 620, App Sequence 69, Appl Sequence 35, Appl Sequence 5989, Ap Sequence 24082, Ap Sequence 1681, A Sequence 1681, A Sequence 1, Appli Sequence 1, Appli	20, 17, 51, 27,	Sequence 32925, A Sequence 48142, A Sequence 318, Apr Sequence 14212, A Sequence 142	Sequence 4, Appli Sequence 134, App Sequence 5200, Ap	5200 401, 475,	Sequence 22, Appl Sequence 4194, Ap Sequence 40, Appl	equence 5256 equence 24,	Seguence 44160, A Seguence 40, Appl Seguence 40, Appl	equence 40, equence 32,	equence 41, equence 44, equence 1404	98	equence 3	equence 41, equence 44, equence 32,	equence 41, equence 44,	4	equence 39,	equence 38]	equence 39, equence 39, equence 1980	equence 719	equence 213,	equence 39, equence 34,	equence 34, equence 12,	equence 12, equence 12,	e 2144	equence 14810	equence 2436 equence 8792 equence 8792
US-09-756-759-161 US-09-330-230A-620 US-09-377-497-69 US-10-090-365-35 US-09-728-911-35 US-09-134-000C-5989 US-09-248-796A-24082 US-09-902-540-16581 US-07-907-178-08																						US-09-280-0 US-09-277-7	US-09-252-991	US-09-248-796A-148	US-09-252-991A-2 US-09-489-039A-8 US-09-270-767-44
22222222222222222222222222222222222222																						ਹਾ ਹਾ	4 4	* ** *	215 2 215 2 215 2
प प <td>4 4</td> <td>य य य य य य य य य य य य य य य</td> <td>. 4 4 4 . 4 4 4 . 4 4 4</td> <td>4.44.4</td> <td>4 4 4</td> <td>4 4</td> <td>ታ ታ ታ ታ ታ ታ ታ ታ ታ</td> <td>*****</td> <td>* * * *</td> <td>4 4 4 4 4 4 4 4 4 4 4</td> <td>4 4 4</td> <td>* * * *</td> <td>4.4.4</td> <td>4 4 4 4 4 4</td> <td>4.4</td> <td>4.4</td> <td>. 4 4 4 4</td> <td>7 7</td> <td>4.</td> <td>4.4.4</td> <td>44.4</td> <td>44.4</td> <td>4.4</td> <td>. 4. 4</td> <td>* * * * * * * * * * * * * * * * * * *</td>	4 4	य य य य य य य य य य य य य य य	. 4 4 4 . 4 4 4 . 4 4 4	4.44.4	4 4 4	4 4	ታ ታ ታ ታ ታ ታ ታ ታ ታ	*****	* * * *	4 4 4 4 4 4 4 4 4 4 4	4 4 4	* * * *	4.4.4	4 4 4 4 4 4	4.4	4.4	. 4 4 4 4	7 7	4.	4.4.4	44.4	44.4	4.4	. 4. 4	* * * * * * * * * * * * * * * * * * *
ਹਾ ਹਾ ਹਾ ਹਾ ਹਾ ਹਾ ਹ	ਰਾ ਰਾ ਰਾ ਰਾ	ਧਿਧਿਧਿ	ਾ ਧਾ ਧਾ ਧਾ	ব ব ব	ককক	'ব'ব'	ব ব ব	444	ਾ ਚਾ ਚਾ	বা বা ব	444	444	44.	ক ক ক	4 4	' ব' ব	. 4 4	• • •	. 4	ਰਾ ਵਾ	44	ব ব	ক ব	' ਦਾ ਦ	' ব' ব' ব
757 758 761 762 763 764	66 68 70 70	<u> </u>	776	79 80 81	83 84	882	887 89	96.00	79.7 79.8 49.8	795 796 797	798	801 802	803 804	806 806 807	808	, H -	812	i -i	1 ~ 1	ηн,	40	821 822	20	100	828 828 829
		7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7.	7.7.7						- (- (-																
	14652, A 57954, A 21579, A 1, Appl	1, Appl , Appli , Appli , Appli	8, Appli 5249, Ap 57496, A	6, Appli 13, Appl 15903, A	1 211, App 7 1	211, App	211, App 7 7 7 1211, App 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	211, App 211, App	28131, A 36772, A		2, Appl	514. 4319		222	82,	529	Sequence 2007 Ap	100	Sequence 24070, A	Sequence 42/3, Ap	Sequence 2, Appli Sequence 17, Appl	Sequence 21779, A Sequence 6158, Ap	41580,	23063,	Sequence 4249, Ap Sequence 4249, Ap Sequence 5. Appl
equence 165, equence 166, equence 167, equence 169, equence 170, equence 172, equence 172,	-09-902-540-14652 Sequence 14652, A -09-270-767-57954 Sequence 57954, A -09-248-7965-21579 Sequence 21579, A -08-865-336-1 Sequence 1, Appl	00-885-580-21 Sequence 21, Appl 00-933-7500-2 Sequence 2, Appli 00-965-689A-1 Sequence 1, Appli 00-234-613-2 Sequence 2, Appli 00-344-613-2 Sequence 2, Appli	09-570-8568-8 Sequence 5.49. Appli 7-09-583-110-5249 Sequence 5249, Ap	09-216-430C-6 Sequence 6, Appli 7 -09-821-726A-13 Sequence 13, Appl 7 509-902-540-15903 Sequence 15903, A	009-991-181-211 Sequence 211, App 7 -09-990-444-211 Sequence 211, App 7 -09-997-333-211 Sequence 211, App 7	09-992-598-211 Sequence 211, App Sequence 211, App Sequence 211, App	.09-989-726-211 Sequence 211, App 7 -09-997-514-211 Sequence 211, App 7 -09-989-728-211 Sequence 211, App 7	09-997-349-211 Sequence 211, App 09-997-553-211 Sequence 211, App 09-997-553-211 Sequence 211, App	.09-248-796A-28131 Sequence 28131, App. -09-248-796A-28131 Sequence 38731, A -09-270-767-36772 Sequence 36772, A	09-270-767-51989 Sequence 51989, -09-248-796A-18384 Sequence 18384, -09-248-796A-20621 Sequence 20621	09-080-643-2 Sequence 2, Appl	-03-263-110-4408 Sequence 4400 -09-107-433-5147 Sequence 5147 -09-107-433-4319 Sequence 4319	-09-183-861-82 Sequence 82, -09-022-765-82 Sequence 82,	.09-551-9/4A-82 Sequence 82, .09-565-501A-82 Sequence 82, .09-539-206A-82 Semience 82,	.09-874-923-82 Sequence 82,	.09-583-110-5295 Sequence 5295	.09-107-433-4762 Sequention	.09-393-627B-21 Sequention	-09-248-796A-24070 Sequen	.09-10/-433-42/3 Sequen	.09-443-067-2 Sequen	-09-252-991A-21779 Sequen -09-134-000C-6158 Sequen	-09-270-767-41580 Sequence 41580,	.09-252-991A-23063 Sequence 23063, .09-651-976-5041 Seminore 5041	09-270-767-41858 Sequence 41858 09-513-999C-4249 Sequence 4249 08-879-561-5
08-127-954-165 Sequence 165, 08-127-954-166 Sequence 166, 08-127-954-167 Sequence 167, 08-127-954-169 Sequence 169, 08-127-954-170 Sequence 170, 08-127-954-171 Sequence 171, 08-127-954-173 Sequence 172, 08-127-954-173 Sequence 173, 09-107-954-173	2 US-09-202-540-14652 Sequence 14652, A 2 US-09-270-767-57954 Sequence 21579, A 1 US-08-865-336-1 Sequence 1, Appli 2 US-09-153-586-21 Sequence 21, Appl	2 US-09-888-580-21 Sequence 21, Appl 1 US-08-933-750C-2 Sequence 2, Appli 2 US-08-945-689A-1 Sequence 1, Appli 2 US-09-34-613-2 Sequence 2, Appli 6 US-09-374-613-2 Sequence 2, Appli	2 US-09-570-656B-8 Sequence 8, Appli 2 US-09-583-110-5249 Sequence 5249, Ap 2 US-09-270-767-57496 Sequence 57496, A	2 US-09-216-430C-6 Sequence 6, Appli 7 2 US-09-821-726A-13 Sequence 13, Appl 7 2 US-09-902-540-15593 Sequence 15903, A	2 US-09-991-181-211 Sequence 211, App 7 2 US-09-990-444-211 Sequence 211, App 7 2 US-09-997-33-211 Sequence 211, App 7	2 US-09-992-598-211 Sequence 211, App 2 US-09-999-735-211 Sequence 211, App	3 US-09-989-726-211 Sequence 211, App 7 3 US-09-997-514-211 Sequence 211, App 7 3 US-09-989-728-211 Sequence 211, App 7	3 US-09-997-349-211 Sequence 211, App Sequence 2	2 US-09-29-248-796A-28131 Sequence 28131, App. 2 US-09-248-796A-28131 Sequence 36772, A	2 US-09-270-767-51989 Sequence 51989, 2 US-09-248-796A-18384 Sequence 18384, 2 US-09-248-796A-20621 Sequence 20621	2 US-09-080-643-2 Sequence 2, Appl 2 US-09-080-643-4 Sequence 4, Appl 2 US-09-080-643-4	2 US-09-107-433-5147 Sequence 4310 2 US-09-107-433-5147 Sequence 514. 2 US-09-107-433-4319 Sequence 431.	2 US-09-183-861-82 Sequence 82, 2 US-09-022-765-82 Sequence 82, 2 US-09-022-765-82	2 US-09-551-9/4A-82 Sequence 82, 2 US-09-565-501A-82 Sequence 82, 2 US-09-639-206A-82 Sequence 82,	2 US-09-874-923-82 Sequence 82,	2 US-09-583-110-5295 Sequence 5295	2 US-09-107-433-4762 Sequence 2 US-09-393-6278-20 Sequence 2	2 US-09-393-627B-21 Sequent	2 US-09-248-796A-24070 Sequen	2 US-09-10/-433-42/3 Sequence 2 US-09-489-039A-11064 Sequence 2 US-09-489-039A-11064	2 US-09-443-067-2 Sequence 2 US-09-377-497-17 Sequence	2 US-09-252-991A-21779 Sequen 2 US-09-134-000C-6158 Sequen	2 US-09-270-767-41580 Sequence 41580, 2 US-09-270-767-56774 Sequence 56774	2 US-09-252-991A-23063 Sequence 23063, 2 US-09-252-991A-23063	2 US-09-270-76-41858 Sequence 41858 2 US-09-513-999C-4249 Sequence 4145, 1 US-08-879-561-5 Secuence 5, Apr

Sequence 18613, A Sequence 19220, A Sequence 19220, A Sequence 11113, A Sequence 11652, A Sequence 35, Appl Sequence 55, Appl Sequence 57,	
US-09-248-796A-18613 US-09-949-016-71931 US-09-949-016-71932 US-09-949-016-71933 US-09-949-016-71933 US-09-488-039A-11133 US-09-488-039A-11133 US-09-134-0000-1314-050-134-0000-134-0000-134-0000-134-0000-134-0000-134-0000-134-0000-134-0000-134-0000-134-0000-134-0000-134-0000-134-0000-134-0000-134-0000-134-0000-134-0000-135-893-6 US-09-134-0000-135-893-6 US-09-134-0000-135-893-6 US-08-135-893-6 US-09-135-893-6 US-09-136-1033 US-09-136-1033 US-09-134-0000-464-9 US-09-134-0000-464-9 US-09-134-0000-464-9 US-09-134-0000-464-9 US-09-134-0000-464-9 US-09-134-0000-464-9 US-09-134-0000-464-9 US-09-134-0000-464-9 US-09-134-0000-464-9 US-09-134-0000-5723 US-09-134-00000-5723 US-09-134-0000-5723 US-09-134-00000-5723 US-09-134-00000-5723 US-09-134-00000-5723 US-09-134-000000-5723 US-09-134-00000-5723 US-09-134-00000-5723 US-09-134-00000000000000000000000000000000000	
24444444444444444444444444444444444444	
य के	
99999999999999999999999999999999999999	
Sequence 6308, Ap Sequence 11454, A Sequence 2470, Ap Sequence 4, Appli Sequence 16, Appli Sequence 1731, Ap Sequence 1731, Appli Sequenc	
US-09-128-352-6308 US-09-489-039A-11454 US-09-810-230A-11454 US-09-810-230A-11454 US-09-810-230A-11459 US-09-270-767-42904 US-09-270-767-42904 US-09-2248-796A-15695 US-09-2248-796A-15695 US-09-2248-796A-15695 US-09-2248-796A-15695 US-09-2248-796A-15695 US-09-2248-796A-15695 US-09-2248-796A-15695 US-09-2248-796A-1349 US-09-238-352-4134 US-09-238-918-266 US-09-2198-452A-6812 US-09-2198-452A-6813 US-09-2198-452A-6813 US-09-210-767-36716 US-09-210-767-36716 US-09-210-767-36716 US-09-210-767-36716 US-09-210-767-36719 US-09-210-767-31821 US-09-210-752A-682 US-09-210-752A-682 US-09-210-752A-682 US-09-210-752A-682 US-09-210-752A-682 US-09-210-752A-682 US-09-210-752A-682 US-09-210-752A-682 US-09-134-000C-6364 US-09-134-00C-6364 US-09-134-00C-6364 US-09-134-00C-6364 US-09-134-00C-3998 US-09-134-00C-3998 US-09-134-001C-3998 US-09-134-001C-3998 US-09-134-001C-3298 US-09-210-752A-47985 US-09-210-752A-47985 US-09-210-223A-686-1680 US-09-210-223A-686-1680 US-09-134-001C-3298 US-09-134-001C-3298 US-09-210-223-8168-288 US-09-249-016-9453 US-09-248-796A-1680 US-09-248-796A-1680 US-09-248-796A-1680	
2 US-09-328-352-6098 2 US-09-489-039A-1144 2 US-09-489-039A-1144 2 US-09-834-681A-549 2 US-09-834-681A-549 2 US-09-834-681A-549 2 US-09-834-681A-549 2 US-09-248-0416 2 US-09-248-0416 2 US-09-248-0416 2 US-09-538-09-443-067-6634 2 US-09-538-09-270-767-6736 2 US-09-538-09-270-767-6736 2 US-09-538-09-270-767-6736 2 US-09-198-452A-683 2 US-09-198-452A-683 2 US-09-198-452A-683 2 US-09-198-452A-683 2 US-09-198-452A-683 2 US-09-198-452A-683 2 US-09-270-767-6736 2 US-09-198-452A-693 2 US-09-198-452A-693 2 US-09-198-10149-26 2 US-09-1149-149-18 2 US-09-134-000C-6366 2 US-09-101-777-2 US-09-211-772-2 US-09-21	
1.4 216 2 US-09-328-352-6508 1.4 217 2 US-09-489-039A-114 217 2 US-09-489-039A-114 218 2 US-09-243-681A-549 1.4 218 2 US-09-243-681A-549 1.4 218 2 US-09-270-767-4299 1.4 218 2 US-09-270-767-4299 1.4 218 2 US-09-270-767-4299 1.4 218 2 US-09-2410 1.4 219 2 US-09-2410 1.4 219 2 US-09-2410 1.4 219 2 US-09-2410 1.4 220 2 US-09-239-948-016 1.4 220 2 US-09-210-16 1.4 220 1 US-09-210-16 1.4 240 2 US-09-210-16 1.4 24	
216 2 US-09-328-352-6308 217 2 US-09-489-039A-114 217 2 US-09-489-039A-114 217 2 US-09-489-039A-114 218 2 US-09-605-703B-247 218 2 US-09-605-703B-247 219 2 US-09-270-767-4290 219 2 US-09-270-767-4290 219 2 US-09-270-767-419-16 220 2 US-09-288-156-413-67-16 221 2 US-09-288-156-413-67-16 222 2 US-09-288-156-16 222 2 US-09-288-156-16 223 2 US-09-288-156-16 224 2 US-09-270-767-6135 225 2 US-09-270-767-6135 226 2 US-09-270-767-6135 227 2 US-09-270-767-6135 228 2 US-09-270-767-6135 229 2 US-09-270-767-6135 220 2 US-09-270-767-6135 221 2 US-09-270-767-6135 222 2 US-09-270-767-6135 223 2 US-09-270-767-6135 224 2 US-09-270-767-6135 239 2 US-09-270-767-6135 231 2 US-09-270-767-6135 232 2 US-09-270-767-6135 233 2 US-09-270-767-6135 234 2 US-09-270-767-6135 235 2 US-09-270-767-6135 237 2 US-09-270-767-6135 238 2 US-09-270-767-6135 239 2 US-09-270-767-6135 231 2 US-09-270-767-6135 232 2 US-09-270-767-6135 233 2 US-09-270-767-6135 233 2 US-09-270-767-6135 234 2 US-09-270-767-6135 235 2 US-09-270-767-6135 236 2 US-09-270-767-6135 237 2 US-09-270-767-6135 238 2 US-09-270-767-6135 239 2 US-09-270-767-6135 231 2 US-09-270-767-6135 232 2 US-09-270-767-6135 233 2 US-09-270-767-6135 233 2 US-09-270-767-6135 234 2 US-09-270-767-6135 235 2 US-09-270-767-6135 237 2 US-09-134-000C-636 238 5 PCT-US94-01149-18 243 2 US-09-134-001C-3391 243 2 US-09-134-001C-3391 243 2 US-09-134-001C-3391 243 2 US-09-134-001C-3284 243 2 US-09-134-001C-3284 244 2 US-09-134-001C-3284 244 2 US-09-134-001C-3284 244 2 US-09-134-001C-3284 244 2 US-09-134-001C-3284 245 2 US-09-134-001C-3284 247 2 US-09-134-001C-3284 248 2 US-09-134-001C-3284 249 2 US-09-134-0	

```
RESULT 3

US-09-56-756-1425

i Sequence 1425, Application US/09962756

j Patent No. 6875741

i GENERAL INFORMATION:

APPLICANT: PILLUTLA, RENUKA

APPLICANT: BLINE, ARTHUR J.

APPLICANT: SCHAFFER, LANGE

APPLICANT: GCLOSTEIN, NEIL I.

APPLICANT: GCLOSTEIN, NEIL I.

APPLICANT: GSTEKCARD, SORRN

APPLICANT: OSTEKCARD, SORRN

APPLICANT: GSTEKCARD, SORRN

APPLICANT: HANSEN, PER HERTZ

TITLE OF INVENTION: INSULIN AND IGF-1 RECEPTOR AGONISTS

FILE REFERENCE: 1878-4051051

CURRENT APPLICATION NUMBER: US/09/962,756

CURRENT FILING DATE: 2010-09-24

PRIOR FILING DATE: 2000-03-29

PRIOR PILING DATE: 1998-09-24

PRIOR FILING DATE: 1998-09-24

NUMBER OF SEQ ID NOS: 2227

SOFTWARE: Patentin Ver: 2.1

SEQ ID NO 1425

LENGTH: 27
                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
TITLE OF INVENTION: INSULIN AND IGF-1 RECEPTOR AGONISTS AND ANTAGONISTS FILE REFERENCE: 1878-4051US1
CURRENT APPLICATION NUMBER: US/09/962,756
CURRENT FILING DATE: 2001-09-24
PRIOR APPLICATION NUMBER: 09/538,038
PRIOR RILING DATE: 2000-03-29
PRIOR APPLICATION NUMBER: 09/146,127
PRIOR APPLICATION NUMBER: 09/146,127
PRIOR FILING DATE: 1998-09-02
NUMBER OF SEQ ID NOS: 2227
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 691
                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                           PEATURE:
OTHER INFORMATION: Description of Artificial Sequence: Synthetic
US-09-962-756-691
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; OTHER INFORMATION: Description of Artificial Sequence: Synthetic; OTHER INFORMATION: peptide
US-09-962-756-1425
                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                        0; Indela
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 27;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        55.6%; Score 5; DB 2;
100.0%; Pred. No. 22;
tive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                  55.6%; Score 5; DB 2;
100.0%; Pred. No. 17;
iive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 4
US-09-732-210-338
; Sequence 338, Application US/09732210
                                                                                                                                                                                                                           TYPE: PRT
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: PRT
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity 100.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity 100..
                                                                                                                                                                                                                                                                                                                                                                                                                                                   DDTFY 8
                                                                                                                                                                                                                                                                                                                                                                                                                          3 DDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3 DDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 10751, Application US/09489039A

Patent No. 6610836

GENERAL INFORMATION:
APPLICANT: Gary Breton et. al

APPLICANTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO KLEBSIELLA

TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO KLEBSIELLA

TITLE OF INVENTION: PREUMONIAE FOR DIAGNOSTICS AND THERAPEUTICS

FILE REFERENCE: 2709.2004001

CURRENT PELLING DATE: 2000-01-27

PRIOR APPLICATION NUMBER: US 60/117,747

PRIOR APPLICATION NUMBER: US 60/117,747

RIOR APPLICATION NUMBER: 1999-01-29

NUMBER OF SEQ ID NOS: 14342

LENGTH: 382

LENGTH: 382
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                    Sequence 1579, A Sequence 1579, A Sequence 1500, A Sequence 2208, Ap Sequence 32482, A Sequence 2380, Ap Sequence 5, Appli Sequence 5, Appli Sequence 54746, A Sequence 45300, A Sequence 45300, A
                                                                                                                                                                                                        2, Appli
2, Appli
                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 4, Appli
                                                                                                           Sequence 108,
Sequence 105,
Sequence 106,
Sequence 107,
Sequence 2, Ag
                      Sequence
                                                          Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 382;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0; Indels
                    US-08-484-905-107
US-08-481-985-108
US-08-481-9858-105
US-08-481-9858-105
US-08-481-9858-107
US-08-481-9858-107
US-08-370-476-108
US-08-370-476-106
US-08-370-476-108
US-09-993-525-2
US-09-993-525-2
US-09-903-540-14541
US-09-902-540-15591
US-09-902-540-15591
US-09-902-540-15609
US-09-902-540-15609
US-09-902-540-15609
US-09-902-540-15609
US-09-902-540-15609
US-09-710-279-2208
                                                                                                                                                                                                                                                                                                                                                                                    US-09-270-767-39529
US-09-270-767-54746
US-09-270-767-45300
                                                                                                                                                                                                                                                                                                                                                  US-09-540-236-2380
US-07-712-476A-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   66.7%; Score 6; DB 2;
100.0%; Pred. No. 15;
iive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 691, Application US/09962756
Patent No. 6875741
GENERAL INFORMATION:
APPLICANT: PILLUTLA, RENURA
APPLICANT: BLIME, ARTHUR J.
APPLICANT: SCHAFFER, LAUGE
APPLICANT: GOLDSTEIN, NEIL I.
APPLICANT: GOLDSTEIN, NEIL I.
APPLICANT: GOLDSTEIN, NEIL I.
APPLICANT: SPETZLER, JANG
APPLICANT: SPETZLER, JANG
APPLICANT: HANSEN, SOREN
APPLICANT: HANSEN, PER HERTZ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; TYPE: PRT
; ORGANISM: Klebsiella pneumoniae
US-09-489-039A-10751
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best Local Similarity 100.
Matches 6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   230 DTFYYV 235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4 DTFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-489-039A-10751
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 2
US-09-962-756-691
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
 ò
```

```
Sequence 14343, Application US/09248796A

Patent No. 6747137

Patent No. 6747137

RENEMAL INFORMATION:

APPLICANT: Keith Weinstock et al

TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO CANDIDA ALBICA:

TITLE OF INVENTION: VUCLEIC ACID AND THERAPEUTICS

TITLE OF INVENTION: 107196.132

CURRENT APPLICATION NUMBER: US 60/074,725

PRIOR FILING DATE: 1998-02-13

PRIOR FILING DATE: 1998-02-13

PRIOR FILING DATE: 1998-08-13

PRIOR FILING DATE: 1998-08-13

NUMBER OF SEQ ID NOS: 28208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-270-767-60895

US-09-270-767-60895

Sequence 60895, Application US/09270767

Sequence 60895, Application US/09270767

Sequence 60895, Application US/09270767

SEQUENCE INFORMATION:

TITLE OF INVENTION: Nucleic acids and proteins of Drosophila melanogaster

TITLE OF INVENTION: Nucleic acids and proteins of Drosophila melanogaster

TITLE OF INVENTION: Nucleic acids and proteins of Drosophila melanogaster

CURRENT FILING DATE: 1999-03-17

NUMBER OF SEQ ID NOS: 62217

SOFTWARE: Patentin Ver. 2.0

SEQ ID NO 60895

LENGTH: 128
                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
TITLE OF INVENTION: SPECIFIC TO RSV F-PROTEIN AND METHODS FOR THEIR TITLE OF INVENTION: MANUFACTURE AND THERAPEUTIC USE THEREOF FILE SPERENCE: 037003-027559
CURRENT APPLICATION NUMBER: US/09/740,002
CURRENT FILING DATE: 2000-12-20
PRIOR APPLICATION NUMBER: 09/335,697
PRIOR FILING DATE: 1999-06-18
PRIOR FILING DATE: 1999-06-18
PRIOR FILING DATE: 1999-06-18
RIOR FILING DATE: 1999-06-18
SPIOR FILING DATE: 1995-06-07
NUMBER: OF SEQ ID NOS: 27
SOFTWARE: PATENTIN VET. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                            Length 126;
                                                                                                                                                                                                                                                                                                                                                                                                                         0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 128;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 2;
                                                                                                                                                                                                                                                                                                                                                            55.6%; Scc...
100.0%; Pred. No. cc...
... 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 5; I
; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 55.6%; Scc.
100.0%; Pre
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; ORGANISM: Drosophila melanogaster US-09-270-767-60895
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity 100.00
Best Local Similarity 5; Conservative
                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity 100.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: PRT
ORGANISM: Candida albicans
                                                                                                                                                                                                                                                                                       ; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-740-002-23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ||||||
DDTFY 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             24 TFYYV 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                               3 DDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5 TFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-248-796A-14343
                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-740-002-23

Sequence 23, Application US/09740002

Patent No. 6237809

GENERAL INFORMATION:
APPLICANT: BRAMS, PETER
APPLICANT: MORROW, PHILLIP

TITLE OF INVENTION: NEUTRALIZING HIGH AFFINITY HUMAN MONOCLONAL ANTIBODIES
                                                   APPLICANT: Liang, Jihong
APPLICANT: Liang, Jihong
APPLICANT: Mittanck Cindy A.
APPLICANT: Mittanck Cindy A.
APPLICANT: Mu, Yonnie S.
TITLE OF INVENTION: Anti-fungal Proteins and Methods for Their Use
FILE REFERENCE: 38-21(15036)B
CURRENT APPLICATION NUMBER: US/09/732,210
CURRENT APPLICATION NUMBER: US/01/69,513
PRIOR APPLICATION NUMBER: US 60/169,513
PRIOR APPLICATION NUMBER: US 60/169,340
PRIOR PILING DATE: 1999-12-07
PRIOR APPLICATION NUMBER: US 60/169,340
PRIOR PILING DATE: 1999-12-07
SEQ ID NO 338
SEQ ID NO 338
LENGTH: 78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 346, Application US/09732210

Sequence 346, Application US/09732210

Sequence 346, Application US/09732210

SERENT NO. 6573361

APPLICANT: Bunkers, Jihong

APPLICANT: Liang, Jihong

APPLICANT: Mittanck, Cindy A.

APPLICANT: Wu, Younie S.

TITLE OF INVENTION: Anti-fungal Proteins and Methods for Their Use

FILE REPERENCE 38-21(15036)B

CURRENT APPLICATION NUMBER: US/09/732,210

CURRENT FILING DATE: 2000-12-07

PRIOR PPLICATION NUMBER: US 60/169,513

PRIOR PPLICATION NUMBER: US 60/169,340

PRIOR PILING DATE: 1999-12-07

PRIOR PILING DATE: 1999-12-07

NUMBER OF SEQ ID NOS: 1753

LENGTH: 80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 78;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 80;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           55.6%; Score 5; DB 2;
100.0%; Pred. No. 53;
ative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        55.6%; Score 5; DB 2;
100.0%; Pred. No. 54;
tive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; TYPE: PRT
; ORGANISM: Lycopersicon esculentum
US-09-732-210-346
                                                                                                                                                                                                                                                                                                                                                                                                            ; ORGANISM: Asparagus officinalis
US-09-732-210-338
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity 100...
5; Conservative
                                             Greg J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           31 KVDDT 35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       31 KVDDT 35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
```

US-09-248-796A-14343

```
Sequence 56330, Application US/09270767

Patent No. 6703491

GENERAL INFORMATION:
APPLICANT: Homburger et al.
TITLE OF INVENTION: Nucleic acids and proteins of Drosophila melanogaster;
FILE REFERENCE: File Reference: 7326-094
CURRENT APPLICATION NUMBER: US/09/270,767
CURRENT FILING DATE: 1999-03-17
NUMBER OF SEQ ID NOS: 62517
SOFTWARE: PatentIn Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 12
US-09-270-767-57344
US-09-270-767-57344

Sequence 57344, Application US/09270767

Patent No. 6703491

GENERAL INFORMATION:

TITLE OF INVENTION: Nucleic acids and proteins of Drosophila melanogaster

TITLE OF INVENTION NUMBER: US/09/270,767

CURRENT APPLICATION NUMBER: US/09/270,767

NUMBER OF SEQ ID NOS: 62517

SOFUMARE: Patentin Ver. 2.0

SEQ ID NO 57344

LENGTH: 174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 2532, Application US/09710279
Fatent No. 6703492
GENERAL INFORMATION:
APPLICANT: KIMMERLY, WILLIAM JOHN
TITLE OF INVENTION: STAPHYLOCOCCUS EPIDERMIDIS NUCLEIC ACIDS AND PROTEINS
FILE REFERENCE: PU3480US
CURRENT APPLICATION NUMBER: US/09/710,279
CURRENT FILING DATE: 2000-11-09
PRIOR FILING DATE: 1999-11-09
NUMBER OF SEQ ID NOS: 4472
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 2532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               55.6%; Score 5; DB 2; Length 174; 100.0%; Pred. No. 1e+02; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 162;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 55.6%; Score 5; DB 2; Best Local Similarity 100.0%; Pred. No. 99; Matches 5; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                       TYPE: PRT / ORGANISM: Drosophila melanogaster US-09-270-767-56930
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; TYPE: PRT
; ORGANISM: Drosophila melanogaster
US-09-270-767-57344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity 100.
|||||
128 KVDDT 132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 141 DDTFY 145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ||||||
87 KVDDT 91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3 DDTFY 7
                                                                                   RESULT 11
US-09-270-767-56930
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-710-279-2532
                                                                                                                                                                                                                                                                                                                                                 SEQ ID NO 56930
                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                       Gaps
                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 2, Application US/10427442

Patent No. 6860704

GENERAL INFORMATION:

APPLICANT: Falco, Carl

APPLICANT: Falco, Carl

APPLICANT: Famedu, Omolayo O.

APPLICANT: Famedu, Antoni

TITLE OF INVENTION: Phosphatidylcholine Biosynthetic Enzyme
FILE REFERENCE: BB1403 US NA

CURRENT APPLICATION NUMBER: US/10/427,442

CURRENT APPLICATION NUMBER: US/09/668,262A

PRIOR APPLICATION NUMBER: US/09/668,262A

PRIOR APPLICATION NUMBER: 00/155626

PRIOR PRILING DATE: 2000-09-22

PRIOR PILING DATE: 1999-09-23

NUMBER OF SEQ ID NOS: 20

SOFTWARE: Microsoft Office 95

SEQ ID NO 2

LENGTH: 157
                                                                                                                                                                                                                                                                                                                                      APPLICANT: Falco, Carl
APPLICANT: Fancou, Omolayo O.
APPLICANT: Fancou, Omolayo O.
APPLICANT: Rafals, Tonney, Tony
APPLICANT: Rafalski, Antoni
TITLE OF INVENTION: Phosphatidylcholine Biosynthetic Enzyme
FILE REPERENCE: BB1403 US NA
CURRENT APPLICATION NUMBER: US/09/668,262A
CURRENT FILING DATE: 2000-09-22
PRIOR FILING DATE: 1999-09-23
NUMBER OF SEQ ID NOS: 20
SOFTWARE: Microsoft Office 95
LENGTH: 157
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             55.6%; Score 5; DB 2; Length 157; 100.0%; Pred. No. 96; o; Indels ive 0; Mismatches 0; Indels
                                          Length 143;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 157;
                                                                                   0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0; Indels
                                      Query Match 55.6%; Score 5; DB 2; Best Local Similarity 100.0%; Pred. No. 89; Matches 5; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match 55.6%; Score 5; DB 2; Best Local Similarity 100.0%; Pred. No. 96; Matches 5; Conservative 0; Mismatches
                                                                                                                                                                                                                              RESULT 9
US-09-668-262A-2
; Sequence 2, Application US/09668262A
; Patent No. 6596926
; GENERAL INFORMATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity 100.0
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    128 KVDDT 132
                                                                                                                                                                    24 TFYYV 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; ORGANISM: Zea mays
US-09-668-262A-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; TYPE: PRT
; ORGANISM: Zea mays
US-10-427-442-2
                                                                                                                         5 TFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-10-427-442-2
                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
```

ö

1 KVDDT 5

ò

ö

Gaps

```
Sequence 31, Application US/09216393B

Patent No. 6514694

GENERAL INFORMATION:
APPLICANT: Milhausen, Michael James
TILE POINTENTION: TOXOPLASMA GONDII PROTEINS, NUCLEIC ACID MOLECULES, AND USES THE FILE REPRENCE: TX.1-C.2
CURRENT APPLICATION NUMBER: US/09/216,393B

CURRENT PILING DATE: 1998-12-18
PRIOR FILING DATE: 1997-12-19
NUMBER: OSEQ ID NOS: 366
SOFTWARE: Patentin version 3.1
SEQ ID NO 31
LENGTH: 230

"WELL NO 31
LENGTH: 230

"WELL NO 31
LENGTH: 230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 16

US-10-101-464A-787

Sequence 787, Application US/10101464A

Patent No. 6766041

GENERAL INFORMATION:

APPLICANT: Strabala, Timothy

APPLICANT: Higgins, Colleen M.

TITLE OF INVENTION: Compositions Isolated from plant Cells

TITLE OF INVENTION: Compositions Isolated from Plant Cells

TITLE OF INVENTION: Compositions Isolated from Plant Cell Signaling

FILE REFRENCE: 11000.1020c2

CURRENT APPLICATION NUMBER: US/10/101,464A

CURRENT FILING DATE: 2002-03-18

PRIOR FILING DATE: 1999-01-10

PRIOR FILING DATE: 1999-01-12

PRIOR FILING DATE: 1999-01-12

PRIOR FILING DATE: 1999-01-12

PRIOR FILING DATE: 1999-01-12

PRIOR APPLICATION NUMBER: PCT/US00/00724

PRIOR FILING DATE: 2000-01-11

NUMBER OF SEQ ID NOS: 989

SOFTWARKE: FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       55.6%; Score 5; DB 2; Length 230; 100.0%; Pred. No. 1.3e+02; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    55.6%; Score 5; DB 2; Length 235; 100.0%; Pred. No. 1.4e+02; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: PRT
ORGANISM: Toxoplasma gondii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Best Local Similarity 100.
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity 100.
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; TYPE: PRT
; ORGANISM: Pinus radiata
US-10-101-464A-787
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 168 KVDDT 172
         |||||
72 KVDDT 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          117 börFY 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-216-393B-31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQ ID NO 787
LENGTH: 235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 17
US-08-326-286-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 4432, Application US/09107532A
Parent No. 6583275
GENERAL INFORMATION:
APPLICANT: Lynn A Doucette-Stamm and David Bush
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO
ENTEROCOCCUS FAECIUM FOR DIAGNOSTICS AND THERAPEUTICS
                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                    OTHER INFORMATION: Description of Artificial Sequence: synthetic;
OTHER INFORMATION: amino acid sequence
US-09-710-279-2532
                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                 Query Match 55.6%; Score 5; DB 2; Length 177; Best Local Similarity 100.0%; Pred. No. 1.1e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 55.6%; Score 5; DB 2; Length 202; Best Local Similarity 100.0%; Pred. No. 1.2e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS:
ADBRESSEE: GENOME THERAPEUTICS CORPORATION
STREET: 100 Beaver Street
CITY: Waltham
STATE: Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:

MEDIUM TYPE: CD/ROM ISO9660
COMPUTER: PC
COMPUTER: PC
COPERATING SYSTEM: «Unknown»
SOFTWARE: ASCII
APPLICATION DATA:
APPLICATION NUMBER: US/09/107,532A
FILING DATE: 30-Jun-1998
FILING DATE: 14 MAY 1998
APPLICATION NUMBER: 60/085,598
FILING DATE: 14 MAY 1998
APPLICATION NUMBER: 60/01571
FILING DATE: July 2, 1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME/KEY: misc feature
LOCATION: (B) LOCATION 1...202
SEQUENCE DESCRIPTION: SEQ ID NO: 4432:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE/DOCKET NUMBER: GTC-012
TELECOMMUNICATION INFORMATION:
TELEPHONE: (781)893-5007
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATTORNEY/AGENT INFORMATION:
NAME: Ariniello, Pamela Deneke
REGISTRATION NUMBER: 40,489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORIGINAL SOURCE:
ORGANISM: Enterococcus faecium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LENGTH: 202 amino acids TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELEFAX: (781) 893-8277
WMATION FOR SEQ ID NO: 4432:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NUMBER OF SEQUENCES: 7310
                        TYPE: PRT
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TOPOLOGY: linear
MOLECULE TYPE: protein
HYPOTHETICAL: YES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COUNTRY: USA
                                                                                                                                                                                                                                                                                                                    18 KVDDT 22
                                                                                                                                                                                                                                                                           1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                     US-09-107-532A-4432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 INFORMATION FOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-107-532A-4432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURE
LENGTH: 177
                                                                      FEATURE:
                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                         g
```

ô

ö

```
Sequence 6685, Application US/09328352

Batent No. 6562958

GENERAL INFORMATION:
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO ACINETOBACTER TITLE OF INVENTION: BAUMANNII FOR DIAGNOSTICS AND THERAPEUTICS
TITLE REFERENCE: GTC99-03PA
CURRENT APPLICATION NUMBER: US/09/328,352
CURRENT FILING DATE: 1999-66-04
NUMBER OF SEQ ID NOS: 8252
LENGTH: 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     KESOUL (16-9786)

Sequence 9786, Application US/09949016

Sequence 9786, Application US/09949016

Sequence 9786, Application US/09949016

Sequence 9786, Application US/09949016

SEQUENCE OF SETTION TOWNER OF TOWNER OF TOWNER OF TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF CURRENT APPLICATION NUMBER: 60/241, 755

PRIOR FILING DATE: 2000-10-20

PRIOR PELING DATE: 2000-10-03

PRIOR PELING DATE: 2000-10-03

PRIOR APPLICATION NUMBER: 60/231, 768

PRIOR PELING DATE: 2000-10-03

PRIOR PELING DATE: 2000-10-03

PRIOR PELING DATE: 2000-10-03

PRIOR PELING DATE: 2000-10-03

SETTING DATE: 2000-10-03

NUMBER OF SEQ ID NOS: 207012

SOFTWARE: FastSEQ for Windows Version 4.0

SEQ ID NO 9786
                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 55.6%; Score 5; DB 2; Length 301; 100.0%; Pred. No. 1.7e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         55.6%; Score 5; DB 2; Length 349; 100.0%; Pred. No. 1.9e+02;
                                                                                                                                                                                                                                                                                                                                 Length 285;
                                                                                                                                                                                                                                                                                                                                                                                             0; Indels
                                                                                                                                                                                                                                                                                                                                                               1.6e+02;
                                                                                                                                                                                                                                                                                                                                 DB 2;
                                                                                                                                                                                                                                                                                                                              55.6%; Score 5; DB 2
100.0%; Pred. No. 1.6
tive 0; Mismatches
      PRIOR FILING DATE: 1998-02-18
PRIOR APPLICATION NUMBER: US 60/094,190
PRIOR FILING DATE: 1998-07-27
NUMBER OF SEQ ID NOS: 33142
SEQ ID NO 30991
LENGTH: 285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; ORGANISM: Acinetobacter baumannii
US-09-328-352-6685
                                                                                                                                                                                                ; TYPE: PRT
; ORGANISM: Pseudomonas aeruginosa
US-09-252-991A-30991
                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity 100.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    196 KVDDT 200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           215 KVDDT 219
                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; TYPE: PRT
; ORGANISM: Human
US-09-949-016-9786
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 19
US-09-328-352-6685
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        q
                                                                                                                                                                                                                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-252-991A-30991

Sequence 30991, Application US/09252991A

Sequence 30991, Application US/09252991A

Sequence 30991, Application US/09252991A

Sequence 30991, Application GENERAL INFORMATION:

APPLICANT: Marc J. Rubenfield et al.

TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PSEUDOMONAS;

TITLE OF INVENTION: AERUGINOSA FOR DIAGNOSTICS AND THERAPEUTICS

FILE REFRENCE: 107196.136

CURRENT APPLICATION NUMBER: US/09/252,991A

CURRENT FILING DATE: 1999-02-18

PRIOR APPLICATION NUMBER: US 60/074,788
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                          GENERAL INFORMATION:
APPLICANT: Sun, Tai-Ping
APPLICANT: Goodman, Howard M.
APPLICANT: Ausubel, Frederick M.
TITLE OF INVENTION: Recombinant Gibberellin DNA and Uses Thereof
NUMBER OF SEQUENCES:
CORRESPONDENCE ADDRESS:
ADDRESSES: STERNE, KESSLER, GOLDSTEIN & FOX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 5; DB 1; Length 279;
Pred. No. 1.6e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
COMPUTER: SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/326,286
PLING DATE: 10-00T-1994
CLASSIFICATION NUMBER: US 08/261,769
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/261,769
FILING DATE: 17-JUN-1994
CLASSIFICATION: 800
PRIOR APPLICATION NUMBER: US 07/844,300
PRIOR APPLICATION NUMBER: US 07/844,300
PRIOR APPLICATION NUMBER: US 07/844,300
ATYORNEY/AGRIT INFORMATION:
NAME: BUGGISTECATION: 800
ATYORNEY/AGRIT INFORMATION:
NAME: BUGGISTECATION NUMBER: 35,086
REGISTECATION NUMBER: 35,086
REGISTERMICATION NUMBER: 35,086
REGIST
                                                                                                                                                                                                      CITY: Washington STATE: D.C.
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 55.6%; Score 5; DB 1
Best Local Similarity 100.0%; Pred. No. 1.6
Matches 5; Conservative 0; Mismatches
Sequence 5, Application US/08326286
Patent No. 5866779
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LENGTH: 279 amino acids
TYPE: amino acid
STRANDEDNESS: not relevant
TOPOLOGY: not relevant
MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    INFORMATION FOR SEQ ID NO: 5: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                           ZIP: Z0005
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    270 VDDTF 274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-08-326-286-5
```

ద ઠે

```
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        쉱
     ö
                                                                                                                                                               Sequence 5050, Application US/09134000C

Ratent No. 6617156

GENERAL INFORMATION:

GENERAL INFORMATION:

TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO TITLE OF INVENTION: RNTEROCCOCCUS FAECALIS FOR DIAGNOSTICS AND THERAPEUTICS TILLE APPLICATION NUMBER: US/09/134,000C

CURRENT APPLICATION NUMBER: US/09/134,000C

PRIOR APPLICATION NUMBER: US 60/055,778

PRIOR PLING DATE: 1997-08-15

NUMBER OF SEQ ID NOS: 6812

SOFTWARE: PATENTIN VERSION 3.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LOCATION: (70)...(70)...
CTHER INFORMATION: Amino acid 70 is Xaa wherein Xaa = any amino acid.
US-09-134-000C-5050
     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 34, Application US/09914098
Patent No. 685863
GENERAL INPORMATION:
APPLICANT: E. I. du Pont de Nemours and Company
TITLE OF INVENTION: Lysophosphatidic Acid Acetyltransferases
FILE REPRENCE: BB1332
CURRENT APPLICATION NUMBER: US/09/914,098
CURRENT FILING DATE: 2001-08-22
FRIOR APPLICATION NUMBER: 60/121,119
FRIOR PILING DATE: 1999-02-22
NUMBER OF SEQ ID NOS: 58
SOFTWARE: Microsoft Office 97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  55.6%; Score 5; DB 2; Length 370; 100.0%; Pred. No. 2e+02; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    55.6%; Score 5; DB 2; Length 373; 100.0%; Pred. No. 2e+02; Live 0; Mismatches 0; Indels
   0; Indels
 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 23
US-10-414-759-2
; Sequence 2, Application US/10414759
 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORGANISM: Enterococcus faecalis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity 100.0
Matches 5; Conservative
5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAME/KEY: MISC_FEATURE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORGANISM: Glycine max
US-09-914-098-34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
Matches 5; Conserv
                                                                     208 DDTFY 212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              145 KVDDT 149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |||||
56 VDDTF 60
                                   3 DDTFY 7
                                                                                                                                                 US-09-134-000C-5050
                                                                                                                                                                                                                                                                                                                                                                                                                       SEQ ID NO 5050
LENGTH: 370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-914-098-34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQ ID NO 34
LENGTH: 373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: PRT
Matches
                                     ð
                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 a
```

```
APPLICANT: JOHNSTON, STEPHEN A.
APPLICANT: MCGUIRE, MICHAEL J.
TITLE OF INVENTION: Use Parapox B2L Protein to Modify Immune Responses to Adminis
TITLE OF INVENTION: Antigens
TILE REPERENCE: UTSD: 664-108
CURRENT APPLICATION NUMBER: US/10/414,759
CURRENT PILING DATE: 2003-04-15
PRIOR FILING DATE: 2001-12-07
NUMBER OF SEQ ID NOS: 4
SOFTWARE: Patentin Ver: 2.1
SEQ ID NO: 378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 4, Application US/10414759

Betent No. 673329

GRENAL INFORMATION:
APPLICANT: JOHNSTON, STEPHEN A.
APPLICANT: MCGUIRE, MCHAREL J.
TITLE OF INVENTION: Use of Parapox B2L Protein to Modify Immune Responses to Administring of INVENTION: Antigens
FILE REPERENCE UTSD:664-105
CURRENT APPLICATION NUMBER: US/10/414,759
CURRENT FILING DATE: 2003-04-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 2, Application US/10123058
Patent No. 6752995
GENERAL INFORMATION:
APPLICANT: JOHNSTON, STEPHEN A.
TITLE OF INVENTION: NUCLEIC ACID AND POLYPEPTIDE SEQUENCES USEFUL AS:
TITLE OF INVENTION: ADJUVANTS
TITLE OF INVENTION: ADJUVANTS
FILE REFERENCE: UTSD:664US
CURRENT APPLICATION NUMBER: US/10/123,058
CURRENT PILLIOR DATE: 2002-04-15
NUMBER OF SEQ ID NOS: 6
SOFTWARE: Patentin Ver. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                      55.6%; Score 5; DB 2; Length 378; 100.0%; Pred. No. 2e+02; live 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 2; Length 378;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             55.6%; Score 5; DB 2
100.0%; Pred. No. 2e+
ive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CURRENT FILING DATE: 2003-04-15
PRIOR APPLICATION NUMBER: US 60/336,694
PRIOR FILING DATE: 2001-12-07
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUMBER OF SEQ ID NOS: 4
SOFTWARE: Patentin Ver. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity 100.
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity 100.
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               325 VDDTF 329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                325 VDDTF 329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2 VDDTF 6
GENERAL INFORMATION
                                                                                                                                                                                                                                                                                                              TYPE: PRT
ORGANISM: PARAPOX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; ORGANISM: PARAPOX
US-10-414-759-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQ ID NO 4
LENGTH: 378
                                                                                                                                                                                                                                                                                                                                                              US-10-414-759-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-10-414-759-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 25
US-10-123-058-2
```

```
Sequence 4, Application US/10414609

Batent No. 675296

GENERAL INFORMATION:

APPLICANT: JOHNSTON, STEPHEN A.

APPLICANT: MCGUIRE, MICHAEL J.

TITLE OF INVENTION: Bee of Parapox B2L Protein to Modify Immune Responses to Administ TITLE OF INVENTION: US of Parapox B2L Protein to Modify Immune Responses to Administ TITLE OF INVENTION: UNMER: US/10/414,609

CURRENT APPLICATION NUMBER: US/10/415

PRIOR APPLICATION NUMBER: US 60/336,694

PRIOR FILING DATE: 2001-12-07

NUMBER OF SEQ ID NOS: 6

SOFTWARE: PatentIN Ver. 2.1

LENGTH: 378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ; Sequence 1, Application US/1031332
; Patent No. 6844000
; GENERAL INFORMATION:
; GENERAL INFORMATION:
; TITLE OF INVENTION: Use of PARAPOX B2L Protein to Treat Cancer:
; TITLE OF INVENTION: and Modify Immune Responses
; TITLE OF INVENTION: and Modify Immune Responses
; TIRE OF INVENTION: and Modify Immune Responses
; TIRE OF INVENTION: and Modify Immune Responses
; CURRENT APPLICATION NUMBER: US/10/313,332
; CURRENT FILING DATE: 2002-12-06
; PRIOR PILING DATE: 2001-12-07
; NUMBER OF SEQ ID NOS: 4
; SOFTWARE: FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           55.6%; Score 5; DB 2; Length 378; 100.0%; Pred. No. 2e+02; rive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                h 55.6%; Score 5; DB 2; Length 378; Similarity 100.0%; Pred. No. 2e+02; 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 30
US-10-313-332-3
; Sequence 3, Application US/10313332
; Patent No. 6844000
; GENERAL INFORMATION:
; APPLICANT: Dubois-Stringfellow, Natalie
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ) ORGANISM: Parapox ovis strain NZ2
US-10-313-332-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity 100.
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
Matches 5; Conserv
    325 VDDTF 329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   325 VDDTF 329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    325 VODTF 329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; ORGANISM: PARAPOX
US-10-414-609-4
                                                                                              RESULT 28
US-10-414-609-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-10-313-332-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQ ID NO 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LENGIH:
                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
APPLICANT: JOHNSTON, STEPHEN A.
APPLICANT: JOHNSTON, STEPHEN A.
APPLICANT: JOHNSTON, STEPHEN A.
APPLICANT: JOHNSTON, STEPHEN A.
TITLE OF INVENTION: Use of Parapox B2L Protein to Modify Immune Responses to Administ TITLE OF INVENTION: Antigens
FILE REFERENCE: UTSD:664-208
CURRENT PAPLICATION NUMBER: US/10/414,609
CURRENT FILING DATE: 2003-04-15
PRIOR APPLICATION NUMBER: US 60/336,694
PRIOR APPLICATION NUMBER: US 60/336,694
PRIOR FILING DATE: 2001-12-07
NUMBER OF SEQ ID NOS: 6
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 2
LENGTH: 378
                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INCORVATION:
APPLICANT: JOHNSTON, STEPHEN A.
APPLICANT: JOHNSTON, STEPHEN A.
APPLICANT: MCGUIRE, MICHAEL J.
TITLE CANT: MCGUIRE, MICHAEL J.
TITLE OF INVENTION: ADJUVANTS
FILE REFERENCE: UTSD:664US
CURRENT APPLICATION NUMBER: US/10/123,058
CURRENT APPLICATION NUMBER: US/202-04-15
NUMBER OF SEQ ID NOS: 6
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 4
LENGTH: 378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ;
0
                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ;
0
                                                                                                                                      Query Match 55.6%; Score 5; DB 2; Length 378; Best Local Similarity 100.0%; Pred. No. 2e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      55.6%; Score 5; DB 2; Length 378; 100.0%; Pred. No. 2e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 55.6%; Score 5; DB 2; Length 378; Best Local Similarity 100.0%; Pred. No. 2e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                        Sequence 4, Application US/10123058
Patent No. 6752995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; Sequence 2, Application US/10414609
; Patent No. 6752996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity 100.
Matches 5; Conservative
                                                                                                                                                                                                                                                                            325 VDDTF 329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       325 VDĎTF 329
; SEQ ID NO 2
; LENGTH: 378
; TYPE: PRT
; ORGANISM: PARAPOX
US-10-123-058-2
                                                                                                                                                                                                                                 2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; ORGANISM: PARAPOX US-10-123-058-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; ORGANISM: PARAPOX
US-10-414-609-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 27
US-10-414-609-2
                                                                                                                                                                                                                                                                                                                                              RESULT 26
US-10-123-058-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: PRT
                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
```

```
Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION:
APPLICANT: Gressel, Jonathan
APPLICANT: Gressel, Jonathan
APPLICANT: Fluh, Nobert
TITLE OF INVENTION: RHAMMOSYL-TRANSFERASE GENE AND USES THEREOF
FILE REPERENCE: 01/2228
CURRENT APPLICATION NUMBER: US/09/889,738
CURRENT FILING DATE: 2000-01-20
PRIOR APPLICATION NUMBER: IL 128193
PRIOR FILING DATE: 1999-01-20
PRIOR PILING DATE: 2000-01-20
PRIOR PILING DATE: 2000-01-20
                                                                                                                                                                                                                                                                         Sequence 682, Application US/09438185A

Patent No. 6822071

GENERAL INFORMATION:
APPLICANT: Stephens, Richard
APPLICANT: Mitchell, Wayne
APPLICANT: Malman, Sue
APPLICANT: The Regents of the University of California
TITLE OF INVENTION: Chlamydia Pneumoniae Genome Sequence
FILE REFERENCE: 018941-000411UUS
CURRENT APPLICATION NUMBER: US/09/438,185A
CURRENT FILING DATE: 2002-03-13
PRIOR APPLICATION NUMBER: US 60/108,279
FRIOR PELING DATE: 1999-11-12
FRIOR FILING DATE: 1999-11-12
FRIOR FILING DATE: 1999-10-004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 428;
                                     Length 428;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  55.6%; Score 5; DB 2; Length 452; 100.0%; Pred. No. 2.4e+02;
                                   DB 2; Lei
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 5; DB 2; Ler
Pred. No. 2.2e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            55.6%; Sco...
100.0%; Pred. No. ...
'... 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQ ID NOS: 1074
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 682
LENGTH: 428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; Sequence 21, Application US/09889738 ; Patent No. 6734343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM: Chlamydia pneumoniae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQ ID NOS: 21
SOFTWARE: PatentIn version 3.1
SEQ ID NO 21
LENGTH: 452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; ORGANISM: Citrus X paradisi
US-09-889-738-21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; OTHER INFORMATION: CPn0680
US-09-438-185A-682
                                Query Match 55.6
Best Local Similarity 100.
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Best Local Similarity 100.
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity
                                                                                                                                                                    297 VDDTF 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              225 TFYYV 229
                                                                                                                     2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5 TFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 34
US-09-889-738-21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FEATURE:
                                                                                                                          ઠે
                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 720, Application US/09198452A

Batent No. 6559294

GENERAL INFORMATION:

APPLICANT: Griffais, R.

TITLE OF INVENTION: Chlamydia pneumoniae genomic sequence and polypeptides, fragments

TITLE OF INVENTION: thereof and uses thereof, in particular for the diagnosis, preve

TITLE OF INVENTION: and treatment of infection

FILE REPERENCE: 9710-003-999

CURRENT FILING DATE: 1998-11-24

NUMBER OF SEQ ID NOS: 6849

SEQ ID NO 720

LENGTH: 428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IS-09-248-796A-17801
Sequence 17801, Application US/09248796A
Patent No. 6747137
GENERAL INFORMATION:
TITLE OF INVENTION: UNCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO CANDIDA ALBICAN TITLE OF INVENTION: UNCLEIC ACID AND THERABEUTICS
TITLE OF INVENTION: UNMER: US/09/248,796A
TITLE REFERENCE: 107196.132
CURRENT FAPLICATION UNMER: US/09/248,796A
CURRENT FILING DATE: 1999-02-12
PRIOR APPLICATION NUMBER: US 60/074,725
PRIOR APPLICATION NUMBER: US 60/074,725
PRIOR APPLICATION NUMBER: US 60/096,409
PRIOR FILING DATE: 1998-02-13
                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
TITLE OF INVENTION: Use of PARAPOX B2L Protein to Treat Cancer TITLE OF INVENTION: and Modify Immune Responses
FILE REFERENCE: 002973.00092
CURRENT APPLICATION NUMBER: US/10/313,332
CURRENT FILING DATE: 2002-12-06
PRIOR APPLICATION NUMBER: US 60/336,694
PRIOR FILING DATE: 2001-12-07
NUMBER OF SEQ ID NOS: 4
SOFTWARE: PastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                        55.6%; Score 5; DB 2; Length 378;
100.0%; Pred. No. 2e+02;
vative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 2; Length 428; . 2.2e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 55.6%; Score 5; DB 2
Best Local Similarity 100.0%; Pred. No. 2.2
Matches 5; Conservative 0; Mismatches
                                                                                                                                                                                                                                                    ; TYPE: PRT
; ORGANISM: Parapox ovis strain D1701
US-10-313-332-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; ORGANISM: Chlamydia pneumoniae
US-09-198-452A-720
                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity luv...
5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQ ID NOS: 28208
SEQ ID NO 17801
LENGTH: 428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM: Candida albicans
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       325 VDDTF 329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     225 TPYYV 229
                                                                                                                                                                                                                                                                                                                                                                                                                                    2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-248-796A-1780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 31
US-09-198-452A-720
                                                                                                                                                                                                                               378
                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Š
```

```
Sequence 27, Application US/08942012B
; Sequence 27, Application US/08942012B
; Patent No. 623278
; GENERAL INFORMATION:
; APPLICANT: Miller, Lois K.
; APPLICANT: Lu, Albert
APPLICANT: Biack, Bruce
; APPLICANT: Biack, Bruce
; TITLE OF INVENTION: Biological Insect Control Agents Expressing
; TITLE OF INVENTION: Insect Specific Toxin Genes, Methods and Compositions
; FILE REFERENCE: 28-96a
; CURRENT FILING DATE: 1997-10-01
; FRIOR APPLICATION NUMBER: US/08/942,012B
; CURRENT FILING DATE: 1997-10-01
; RILOR APPLICATION NUMBER: 08/729,606
; NUMBER OF SEQ ID NOS: 33
; SOFTWARE: PatentIn Ver. 2.0
; FROM TOWER OF SEQ ID NOS: 33
; SOFTWARE: PatentIn Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  55.6%; Score 5; DB 2; Length 486; 100.0%; Pred. No. 2.5e+02; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      55.6%; Score 5; DB 2; Length 491; 100.0%; Pred. No. 2.5e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: PRT
ORGANISM: Choristoneura fumiferana nucleopolyhedrovirus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-10-033-109-10

Sequence 10, Application US/10033109

Patent No. 6833492

GENERAL INFORMATION:

APPLICANT: Allen, Stephen M.

APPLICANT: Rafalski, J. Antoni

APPLICANT: Sakai, Hajime
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity 100.
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                       ORGANISM: Glycine max
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      344 KVDDT 348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          328 kvbbr 332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 38
US-08-942-012B-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-08-942-012B-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-10-033-109-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LENGTH: 491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 39
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 36
US-09-134-001C-4435
Sequence 435, Application US/09134001C
Sequence 4435, Application US/09134001C
Sequence 4435, Application US/09134001C
SEMERAL INFORMATION:
TITLE OF INVENTION: EPIDERMIDIS FOR DIAGNOSTICS AND THERAPEUTICS
CURRENT APPLICATION NUMBER: US 60/054,964
PRIOR PILING DATE: 1997-11-08
PRIOR PILING DATE: 1997-11-08
PRIOR PILING DATE: 1997-11-08
SEQ ID NO 4435
INUMBER OF SEQ ID NOS: 5674
ILENGTH: 479
                                                                                                                                                                                                                                                 GENERAL INFORMATION:

APPLICANT: BRAMS, PETER

APPLICANT: BRAMS, PETER

TITLE OF INVENTION: NEUTRALIZING HIGH AFFINITY HUMAN MONOCLONAL ANTIBODIES

TITLE OF INVENTION: SPECIFIC TO RSV F-PROTEIN AND METHODS FOR THEIR

TITLE OF INVENTION: MANUFACTURE AND THERAPEUTIC USE THEREOF

TITLE OF INVENTION: MANUFACTURE AND THERAPEUTIC USE THEREOF

CURRENT APPLICATION NUMBER: US/09/740,002

CURRENT PILING DATE: 1999-06-18

PRIOR APPLICATION NUMBER: 09/335,697

PRIOR PEDICATION NUMBER: 08/488,376

PRIOR PELING DATE: 1995-06-07

NUMBER OF SEQ ID NOS: 27

SEQ ID NO 27

LENGTH: 475
                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         .;
0
                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity 100.0%; Pred. No. 2.5e+02; Similarity 00.0%; Pred. No. 2.5e+02; S. Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 55.6%; Score 5; DB 2; Length 479; Best Local Similarity 100.0%; Pred. No. 2.5e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                   Indels
                                   ;;
                                 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM: Staphylococcus epidermidis
                                                                                                                                                                                                             Sequence 27, Application US/09740002
Patent No. 6537809
                                 ö
                               5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
                                                                                                           243 KVDDT 247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    76 börey 80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            45 KVDDT 49
                                                                     1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3 DDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-134-001C-4435
                                                                                                                                                                                          US-09-740-002-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-09-740-002-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 37
                                                                       ઠે
                                                                                                             셤
```

셤

ò

셤

ò

```
Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gapa
                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                    55.6%; Score 5; DB 2; Length 548; 100.0%; Pred. No. 2.8e+02; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 55.6%; Score 5; DB 2; Length 548; Best Local Similarity 100.0%; Pred. No. 2.8e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2.8e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 4, Application US/09398395A

Batent No. 6468772

GENERAL INFORMATION:

APPLICANT: Chappell, Joseph
APPLICANT: Barks, Courtney M.
APPLICANT: Manna, Kathleen R.
ITLE OF INVENTION: SYNTHASES
FILE REFERENCE: 07678-025001

CURRENT APPLICATION NUMBER: US/09/398,395A

CURRENT APPLICATION NUMBER: 60/100,993

FRIOR PILING DATE: 1999-09-17

FRIOR APPLICATION NUMBER: 60/130,628

PRIOR FILING DATE: 1999-09-18

PRIOR FILING DATE: 1999-09-18

PRIOR FILING DATE: 1999-09-20

FRIOR FILING DATE: 1999-09-20

FRIOR FILING DATE: 1999-08-23

NUMBER OF SEQ ID NOS: 58

SOFTWARE: FASSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 6, Application US/09398395A
Patent No. 6468772
GENERAL INFORMATION:
APPLICANT: Chappell, Joseph
APPLICANT: No. 6468721, Joseph
APPLICANT: Starks, Courtney M.
APPLICANT: Starks, Courtney M.
APPLICANT: Starks, Courtney M.
APPLICANT: Starks, Courtney M.
APPLICANT: Namna, Kathleen R.;
TILE REFERENCE: 07678-02501
CURRENT APPLICATION NUMBER: 60/100,993
FRIOR APPLICATION NUMBER: 60/100,993
FRIOR APPLICATION NUMBER: 60/130,628
FRIOR FILING DATE: 1999-04-22
FRIOR APPLICATION NUMBER: 60/130,628
FRIOR FILING DATE: 1999-04-22
              PRIOR APPLICATION NUMBER: 60/150,262
PRIOR FILING DATE: 1999-08-23
NUMBER OF SEQ ID NOS: 58
SOFTWARE: FABLESEQ for Windows Version 3.0
SEQ ID NO 2
LENGTH: 548
                                                                                                                                                                                       ; TYPE: PRT
; ORGANISM: Nicotiana tabacum
US-09-398-395A-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORGANISM: Nicotiana tabacum
US-09-398-395A-4
                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity 100.
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       300 VDDTF 304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              300 VDDTF 304
                                                                                                                                                                                                                                                                                                                                                                                                                    2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 42
US-09-398-395A-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-398-395A-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQ ID NO 4
LENGTH: 548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             General INFORMATION:

Refert No. 6551955

GENERAL INFORMATION:

APPLICANT:

APPLICATION NUMBER:

CURRENT FILING DATE:

1999-02-18

PRIOR APPLICATION NUMBER:

US 60/074,788

PRIOR APPLICATION NUMBER:

PRIOR APPLICATION NUMBER:

US 60/074,788

PRIOR APPLICATION NUMBER:

US 60/074,788
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0; Gaps
TITLE OF INVENTION: Nitrogen Transport Metabolism
FILE REFERENCE: BB-1210
CURRENT APPLICATION NUMBER: US/10/033,109
CURRENT FILING DATE: 2001-12-28
PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: 09/384,625
PRIOR APPLICATION NUMBER: EARLIER PILING DATE: 1999-08-27
PRIOR APPLICATION NUMBER: EARLIER PRICATION NUMBER: 60/098,248
PRIOR PILING DATE: EARLIER FILING DATE: 28 August 1998
NUMBER OF SEQ ID NOS: 14
SOFTWARE Microsoft Office 97
LENGTH: 497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 55.6%; Score 5; DB 2; Length 497; 100.0%; Pred. No. 2.6e+02; ative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             55.6%; Score 5; DB 2; Length 547; 100.0%; Pred. No. 2.8e+02; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 2, Application US/09398395A
Patent No. 646872
GENERAL INFORMATION:
APPLICANT: Chappell, Joseph
APPLICANT: Chappell, Joseph
APPLICANT: Starks, Courtney M.
APPLICANT: Manna, Kathleen R.
ITILE OF INVENTION: SYNTHASES
FILE REFERENCE: 07678-025001
CURRENT APPLICATION NUMBER: 00/100,993
PRIOR APPLICATION NUMBER: 60/100,993
PRIOR PILING DATE: 1999-09-18
PRIOR PILING DATE: 1999-09-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORGANISM: Pseudomonas aeruginosa
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity 100.
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity 100.
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                ; TYPE: PRT
; ORGANISM: Oryza sativa
US-10-033-109-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      347 KVDDT 351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                133 VDDTP 137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-252-991A-17363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-252-991A-17363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 41
US-09-398-395A-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ð
```

셤

ö

```
Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                               55.6%; Score 5; DB 2; Length 548; 100.0%; Pred. No. 2.88+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 55.6%; Score 5; DB 2; Length 548; Best Local Similarity 100.0%; Pred. No. 2.8e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 12, Application US/09398395A
Sequence 12, Application US/09398395A
Sequence 12, Application US/09398395A
GENERAL INFORMATION:
APPLICANT: Chappell, Joseph
APPLICANT: No. 6468721, Joseph
APPLICANT: No. 6468721, Joseph D.
APPLICANT: Manna, Kathleen R.
TITLE OF INVENTION: SYNTHASES
FILE REFERENCE: 07679-02501;
CURRENT APPLICATION NUMBER: US/09/398,395A
CURRENT FILING DATE: 1999-09-17
PRIOR FILING DATE: 1999-09-18
PRIOR FILING DATE: 1999-04-18
PRIOR FILING DATE: 1999-04-22
PRIOR FILING DATE: 1999-04-23
PRIOR FILING DATE: 1999-04-38
NUMBER: OF SEQ ID NOS: 58
SEQ ID NO 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 2, Application US/09887586A
| Patent No. 6495354
| GENERAL INFORMATION:
| APPLICANT: Chappell, Joseph
| APPLICANT: Rarke, Courtney M.
| APPLICANT: Starke, Courtney M.
| APPLICANT: Manna, Kathleen R.
| TITLE OF INVENTION: SYNTHASES
| FILE REPRENCE: 07678-02501, CURRENT PELING DATE: 2001-06-22
| CURRENT PELING DATE: 1999-09-17
| PRIOR FILING DATE: 1999-09-17
| PRIOR PELICATION NUMBER: 60/130,628
       NUMBER OF SEQ ID NOS: 58
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 10
LENGTH: 548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; LOCATION: (1)...(548)
; OTHER INFORMATION: Xaa = Any Amino Acid
US-09-398-395A-12
                                                                                                    ; TYPE: PRT
; ORGANISM: Nicotiana tabacum
US-09-398-395A-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM: Nicotiana tabacum
                                                                                                                                                                                               Query Match
Best Local Similarity 100.
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                  300 VDDTF 304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            300 VDDTF 304
                                                                                                                                                                                                                                                                                                  2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME/KEY: VARIANT
                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 46
US-09-398-395A-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-887-586A-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 47
                                                                                                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠ
                                                                                                                                                                                                                                                                           ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                             Gape
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ;
0
                                                                                                                                                                                                                      Query Match 55.6%; Score 5; DB 2; Length 548; Best Local Similarity 100.0%; Pred. No. 2.8e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 548;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
55.6%; Score 5; DB 2; Les
Best Local Similarity 100.0%; Pred. No. 2.8e+02;
Matches 5; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 8, Application US/09398395A
Patent No. 6468772
GENERAL INFORMATION:
APPLICANT: Chappell, Joseph
APPLICANT: Chappell, Joseph
APPLICANT: Rarks, Courtney M.
APPLICANT: Starks, Courtney M.
APPLICANT: Starks, Courtney M.
APPLICANT: STARS, COURTNEY M.
APPLICANT: STARS, COURTNEY M.
APPLICANT: STARS, COURTNEY M.
APPLICANTION: SYNTHASES
FILE REFERENCE: 07678-02501
CURRENT FILING DATE: 1999-09-17
PRIOR PILING DATE: 1999-09-18
PRIOR FILING DATE: 1999-04-22
PRIOR FILING DATE: 1999-04-23
SPIOR FILING DATE: 1999-04-23
SPIOR FILING DATE: 1999-04-23
SPIOR FILING DATE: 1999-04-23
SEQ ID NOS: 58
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-398-395A-10
Sequence 10, Application US/09398395A
Sequence 10, Application US/09398395A
GENERAL INC. 6468772
GENERAL INFORMATION:
APPLICANT: Chappell, Joseph
APPLICANT: Chappell, Joseph P.
APPLICANT: Starks, Courtney M.
APPLICANT: Manna, Kathleen R.
TITLE OF INVENTION: SYNTHASES
FILE REFERENCE: 05678-02501
CURRENT APPLICATION NUMBER: 00/100,993
FRIOR FILING DATE: 1998-09-18
PRIOR APPLICATION NUMBER: 60/100,993
FRIOR FILING DATE: 1999-04-2
FRIOR FILING DATE: 1999-04-22
FRIOR APPLICATION NUMBER: 60/150,628
FRIOR APPLICATION NUMBER: 60/150,628
FRIOR APPLICATION NUMBER: 60/150,628
                         NUMBER OF SEQ ID NOS: 58
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 6
LENGTH: 548
PRIOR FILING DATE: 1999-08-23
                                                                                                                         TYPE: PRT ORGANISM: Nicotiana tabacum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM: Nicotiana tabacum
                                                                                                                                                                                                                                                                                                                                                                   300 VDDTF 304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   300 VDDTF 304
                                                                                                                                                                                                                                                                                                                      2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-398-395A-8
                                                                                                                                                                      US-09-398-395A-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-398-395A-8
                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠ
```

ઠે g

```
Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                           55.6%; Score 5; DB 2; Length 548; 100.0%; Pred. No. 2.8e+02; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 548;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         55.6%; Score 5; DB 2; Length 548;
100.0%; Pred. No. 2.8e+02;
tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 8, Application US/09887586A
Sequence 8, Application US/09887586A
GENERAL INFORMATION:
APPLICANT: Chappell, Joseph
APPLICANT: Chappell, Joseph
APPLICANT: Barks, Courtney M.
APPLICANT: Manna, Kathleen R.
TITLE OF INVENTION: SYNTHASES
FILE REFRENCE: 07679 -02501;
CURRENT PAPLICATION NUMBER: US/09/887,586A
CURRENT FILING DATE: 1999-09-17
PRIOR PILING DATE: 1999-09-22
PRIOR FILING DATE: 1999-08-23
NUMBER OF SEQ ID NOS: 58
SOFTWARE: FREEEN FREEN FREEN FREEN FREEN FREEEN FREEN FREEN FREEN FREEN FREEN FREEN FREEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 10, Application US/09887586A

Patent No. 6495354

GENERAL INFORMATION:
APPLICANT: Chappell, Joseph
APPLICANT: Chappell, Joseph
APPLICANT: Starks, Courtney M.
APPLICANT: Starks, Courtney M.
APPLICANT: Manna, Kathleen R.
TITLE OF INVENTION: SYNTHASES
FILE REFERENCE: 07678-02501
CURRENT PAPLICATION NUMBER: 09/398,395
FRIOR APPLICATION NUMBER: 09/398,395
PRIOR APPLICATION NUMBER: 60/130,628
PRIOR FILING DATE: 1999-04-22
PRIOR APPLICATION NUMBER: 60/130,628
PRIOR FILING DATE: 1999-04-22

PRIOR APPLICATION NUMBER: 60/130,628
               PRIOR APPLICATION NUMBER: 60/150,262
PRIOR FILING DATE: 1999-08-23
NUMBER OF SEQ ID NOS: 58
SEQ TWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 6
LENGTH: 548
                                                                                                                                                                                                                                                                            : Nicotiana tabacum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; TYPE: PRT
; ORGANISM: Nicotiana tabacum
US-09-887-586A-8
                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity 100.
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity 100.
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               300 VDDTF 304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        300 VDDTF 304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-887-586A-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-887-586A-8
                                                                                                                                                                                                                                                                                                               US-09-887-586A-6
                                                                                                                                                                                                                                             TYPE: PRT
ORGANISM: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            쉼
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ;
0
                                                                                                                                                                                                                                                                                                                                                                                                               55.6%; Score 5; DB 2; Length 548; 100.0%; Pred. No. 2.8e+02; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                55.6%; Score 5; DB 2; Length 548; 100.0%; Pred. No. 2.8e+02; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 4, Application US/09887586A
Patent No. 6495354
GENERAL INFORMATION:
APPLICANT: Chappell, Joseph
APPLICANT: Chappell, Joseph
APPLICANT: Ranna, Kathleen R.
TITLE OF INVENTION: SYNTHASES
FILE REPRENCE: 07678-02501
CURRENT APPLICATION NUMBER: US/09/887,586A
CURRENT FILING DATE: 1999-09-17
PRIOR FILING DATE: 1999-09-17
PRIOR FILING DATE: 1999-04-22
PRIOR FILING DATE: 1999-04-22
PRIOR FILING DATE: 1999-04-23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 6, Application US/09887586A
Patent No. 6495354
GENERAL INFORMATION:
APPLICANT: Chappell, Joseph
APPLICANT: Chappell, Joseph
APPLICANT: Starks, Courtney M.
APPLICANT: Starks, Courtney M.
TITLE OF INVENTION: SYNTHASES
FILE REFERENCE: 07678-0250H
CURRENT PEPLICATION NUMBER: US/09/887,586A
CURRENT PELLING DATE: 1999-09-17
PRIOR APPLICATION NUMBER: 60/130,628
PRIOR FILING DATE: 1999-09-17
PRIOR FILING DATE: 1999-04-22
PRIOR FILING DATE: 1999-04-22
PRIOR APPLICATION NUMBER: 60/150,262
PRIOR FILING DATE: 1999-08-23
NUMBER OF SEQ ID NOS: 58
SOFTWARE: PARESEQ for Windows Version 3.0
SEQ ID NO 2
LENGTH: 548
                                                                                                                                                                                                                                                             TYPE: PRT
; ORGANISM: Nicotiana tabacum
US-09-887-586A-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: PRT
ORGANISM: Nicotiana tabacum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 55.6
Best Local Similarity 100.
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              300 VDDTF 304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               300 VDDTF 304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 49
US-09-887-586A-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-887-586A-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-09-887-586A-4
```

ö

ઠે 셤

```
Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ;
                                                                                                                                                                                                                                                                                              DB 2; Length 548;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 2; Length 548; . 2.8e+02; ches 0; Indels
                                                                                                                                                                                                                                                                                                                                        0; Indels
                                                                                                                                                                                                                                                                                                55.6%; Score 5; DB 2
100.0%; Pred. No. 2.6
tive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     JARCHERAL INOCRMATION:
APPLICANT: Chappell, Joseph
APPLICANT: No. 6552971, Joseph
APPLICANT: No. 6552971, Joseph
APPLICANT: No. 6552971, Joseph
APPLICANT: No. 6552971, Joseph P.
APPLICANT: Manna, Kathleen R.
TITLE OF INVENTION: SYNTHASES
FILE REFERENCE: 0767-02501,
CURRENT APPLICATION NUMBER: US/09/895,752
CURRENT FILING DATE: 2001-06-29
PRIOR PILING DATE: 1999-09-17
PRIOR APPLICATION NUMBER: 60/130,628
PRIOR FILING DATE: 1998-09-18
PRIOR FILING DATE: 1998-09-18
PRIOR FILING DATE: 1999-04-22
PRIOR FILING DATE: 1999-04-22
PRIOR FILING DATE: 1999-04-22
PRIOR FILING DATE: 1999-08-23
NUMBER OF SEQ ID NOS: 58
SOFTWARE: FRAESEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-895-752-6

Sequence 6, Application US/09895752

Patent No. 6559297

GENERAL INFORMATION:
APPLICANT: Chappell, Joseph
APPLICANT: Starks, Courtney M.
APPLICANT: Starks, Courtney M.
TITLE OF INVENTION: SYNTHASES
FITLE REFERENCE: 07678-025001

CURRENT APPLICATION NUMBER: US/09/895,752
    PRIOR APPLICATION NUMBER: 60/100,993
PRIOR FILING DATE: 1998-09-18
PRIOR FILING DATE: 1999-04-22
PRIOR APPLICATION NUMBER: 60/150,262
PRIOR APPLICATION NUMBER: 60/150,262
PRIOR PILING DATE: 1999-08-23
NUMBER OF SEQ. ID NOS: 58
SOFTWARE: FASELSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 5; I
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  55.6%; Scc.
100.0%; Pre
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 4, Application US/09895752
Patent No. 6559297
                                                                                                                                                                                                                                  ORGANISM: Nicotiana tabacum
US-09-895-752-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM: Nicotiana tabacum
                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity 10vo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity 100.
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                     300 VDDTF 304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         300 VDDTF 304
                                                                                                                                                                                                                                                                                                                                                                               2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: PRT
                                                                                                                                                                      SEQ ID NO 2
LENGTH: 548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-09-895-752-4
                                                                                                                                                                                                               TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                .
0
                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 55.6%; Score 5; DB 2; Length 548; Best Local Similarity 100.0%; Pred. No. 2.8e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                         55.6%; Score 5; DB 2; Length 548; 100.0%; Pred. No. 2.8e+02;
                                                                                                                                                                                                                                0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 1.2. Application US/09887586A
Settent No. 6495354
GEMERAL INPORMATION:
APPLICANT: Chappell, Joseph
APPLICANT: Chappell, Joseph
APPLICANT: No. 64953541, Joseph P.
APPLICANT: Starks, Courtney M.
APPLICANT: STARKS, Courtney M.
TITLE OF INVENTION: SYNTHASES
FILE REFERENCE: 07678-025001
CURRENT FILING DATE: 2001-06-22
FRIOR APPLICATION NUMBER: 09/398,395
FRIOR APPLICATION NUMBER: 60/130,628
FRIOR APPLICATION NUMBER: 60/130,628
FRIOR FILING DATE: 1999-04-22
FRIOR FILING DATE: 1999-04-23
NUMBER OF SEQ ID NOS: 58
SOFTWARE: FASUSEQ for Windows Version 3.0
SEQ ID NO 12
LEMETH: SPRI
                                                                                                                                                                                                                                0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 53
US-09-895-752-2
; Sequence 2, Application US/09895752
; Patent No. 6559297
; GENERAL INFORMATION:
APPLICANT: Chappell, Joseph
; APPLICANT: No. 6559297, Joseph
; APPLICANT: Starks, Courtney M.
TITLE OF INVENTION: SYNTHASES
; FILE REFERENCE: 07678-025001
; CURRENT APPLICATION NUMBER: US/09/895,752
; CURRENT FILING DATE: 1999-09-17
                   NUMBER OF SEQ ID NOS: 58
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 10
LENGTH: 548
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NAME/KEY: VARIANT

COCATION: (1)...(548)

COTHER INFORMATION: Xaa = Any Amino Acid
US-09-887-586A-12
PRIOR FILING DATE: 1999-08-23
                                                                                                                         ORGANISM: Nicotiana tabacum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM: Nicotiana tabacum
                                                                                                                                                                                     Query Match
Best Local Similarity 100.
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                               300 VDDTF 304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         300 VDDTF 304
                                                                                                                                                                                                                                                                        2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                           US-09-887-586A-12
                                                                                                                                          US-09-887-586A-10
                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
```

```
Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        55.6%; Score 5; DB 2; Length 548; 100.0%; Pred. No. 2.8e+02; Live 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 55.6%; Score 5; DB 2; Length 548; Best Local Similarity 100.0%; Pred. No. 2.8e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 12, Application US/09895752;
Sequence 12, Application US/09895752;
Patent No. 6559297;
GENERAL INFORMATION:
APPLICANT: Chappell, Joseph
APPLICANT: No. 65592971, Joseph
APPLICANT: Manna, Kathleen R.
TITLE OF INVENTION: SYNTHASES
FILE REERENCE: 07678-02501
CURRENT APPLICATION NUMBER: US/09/895,752
CURRENT APPLICATION NUMBER: 09/398,395
FRIOR PILING DATE: 1990-09-17
PRIOR PILING DATE: 1990-09-18
PRIOR FILING DATE: 1999-09-18
PRIOR PILING DATE: 1999-09-18
PRIOR PILING DATE: 1999-09-18
PRIOR APPLICATION NUMBER: 60/150,262
PRIOR APPLICATION NUMBER: 60/150,262
PRIOR APPLICATION NUMBER: 60/150,262
PRIOR PILING DATE: 1999-08-23
NUMBER: OF SEQ ID NOS: 58
SOFTWARE: FABLESEQ for Windows Version 3.0
SEQ ID NO 12
LENGTH: 548
                                           FILE REFERENCE: 07678 025001
CURRENT APPLICATION NUMBER: US/09/895,752
CURRENT APPLICATION NUMBER: 09/398,395
PRIOR APPLICATION NUMBER: 09/398,395
PRIOR FILING DATE: 1999-09-17
PRIOR FILING DATE: 1998-09-18
PRIOR FILING DATE: 1999-09-18
PRIOR APPLICATION NUMBER: 60/130,628
PRIOR APPLICATION NUMBER: 60/150,262
PRIOR APPLICATION NUMBER: 60/150,262
PRIOR APPLICATION NUMBER: 60/150,262
PRIOR FILING DATE: 1999-08-23
NUMBER OF SEQ ID NOS: 58
SOUTHARE: FBSELSEQ for Windows Version 3.0
SEQ ID NO 10
LENGTH: 548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  // NAME/KEY: VARIANT
// LOCATION: (1)...(548)
// OTHER INFORMATION: Xaa = Any Amino Acid
US-09-895-752-12
                          TITLE OF INVENTION: SYNTHASES
                                                                                                                                                                                                                                                                                                                                                                                              , TYPE: PRT
, ORGANISM: Nicotiana tabacum
US-09-895-752-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM: Nicotiana tabacum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity 100...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                300 VDDTF 304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   300 VDDTF 304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-09-895-752-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 59
US-09-903-012B-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                             .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 55.6%; Score 5; DB 2; Length 548; Best Local Similarity 100.0%; Pred. No. 2.8e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         55.6%; Score 5; DB 2; Length 548; 100.0%; Pred. No. 2.8e+02; rive 0; Mismatches 0; Indels
CURRENT FILING DATE: 2001-06-29
PRIOR APPLICATION NUMBER: 09/398,395
PRIOR PILING DATE: 1999-09-17
PRIOR PILING DATE: 1999-09-17
PRIOR APPLICATION NUMBER: 60/100,993
PRIOR PILING DATE: 1998-09-18
PRIOR PILING DATE: 1999-04-22
PRIOR APPLICATION NUMBER: 60/130,628
PRIOR APPLICATION NUMBER: 60/150,262
PRIOR PILING DATE: 1999-08-23
NUMBER OF SEQ ID NOS: 58
SOFTWARE: PASISEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Chappell, Joseph
APPLICANT: Starks, Courtney M.
APPLICANT: Manna, Kathleen R.
ITILE OF INVENTION: SYNTHASES
FILE REFERENCE: 07678-025001
CURRENT FILING DATE: 2001-06-29
PRIOR PILING DATE: 1999-09-17
PRIOR APPLICATION NUMBER: 06/100,993
PRIOR PLING DATE: 1998-09-18
PRIOR PILING DATE: 1998-09-18
PRIOR PILING DATE: 1998-09-18
PRIOR PILING DATE: 1999-04-22
PRIOR PILING DATE: 1999-04-22
PRIOR PILING DATE: 1999-04-22
PRIOR PILING DATE: 1999-04-23
NUMBER OF SEQ ID NOS: 56
SOFTWARE: FREESEQ FOR WINDOWS VERSION 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 10, Application US/09895752
Patent No. 6559297
GENERAL INFORMATION:
APPLICANT: Chappell, Joseph
APPLICANT: No. 65592971, Joseph P.
APPLICANT: Starks, Courtney M.
APPLICANT: Manna, Kathleen R.
                                                                                                                                                                                                                                                                                                                                       ; ORGANISM: Nicotiana tabacum
US-09-895-752-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; TYPE: PRT
; ORGANISM: Nicotiana tabacum
US-09-895-752-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity 100.(
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     300 VDDTF 304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               300 VDDTF 304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQ ID NO 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 57
US-09-895-752-10
                                                                                                                                                                                                                                                                                         LENGTH: 548
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -09-895-752-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
```

δ

```
RESULT 63
US-09-903-012B-10
'Sequence 10, Application US/09903012B
'Patent No. 6569656
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              300 VDĎTF 304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               300 VDĎTF 304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2 VDDTF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-09-903-012B-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-903-012B-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQ ID NO 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LENGIH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 55.6%; Score 5; DB 2; Length 548; Best Local Similarity 100.0%; Pred. No. 2.8e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 55.6%; Score 5; DB 2; Length 548; Best Local Similarity 100.0%; Pred. No. 2.8e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                     GENERAL INFORMATION:
APPLICANT: Chappell, Joseph
APPLICANT: Chappell, Joseph
APPLICANT: No. 65696561, Joseph
APPLICANT: No. 65696561, Joseph P.
APPLICANT: Starks, Coutney M.
APPLICANT: Starks, Coutney M.
APPLICANT: Starks, Coutney M.
APPLICANT: STARLeen R.
TILLE REFERENCE: 07678-025001
CURRENT APPLICATION NUMBER: 100/903, 012B
CURRENT APPLICATION NUMBER: 60/10,993
PRIOR FILING DATE: 1998-09-18
PRIOR FILING DATE: 1999-04-22
PRIOR APPLICATION NUMBER: 60/130,628
PRIOR FILING DATE: 1999-04-22
PRIOR FILING DATE: 1999-06-23
NUMBER OF SEQ ID NOS: 58
NUMBER OF SEQ ID NOS: 58
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 4, Application US/09903012B
Patent No. 656956
GENERAL INPORMATION:
APPLICANT: Chappell, Joseph
APPLICANT: Chappell, Joseph
APPLICANT: Chappell, Joseph
APPLICANT: Starks, Courtney M.
APPLICANT: Manna, Kathleen R.
ITILE OF INVENTION: SYNTHASES
FILE REPRENCE: 07678-02501
CURRENT APPLICATION NUMBER: US/09/903,012B
CURRENT FILING DATE: 1998-10-18
PRIOR FILING DATE: 1999-04-22
PRIOR FILING DATE: 1999-04-23
PRIOR FILING DATE: 1999-04-32
Sequence 2, Application US/09903012B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; Sequence 6, Application US/09903012B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM: Nicotiana tabacum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: PRT
ORGANISM: Nicotiana tabacum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           300 VDDTF 304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        300 VDDTF 304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 60
US-09-903-012B-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-903-012B-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 61
US-09-903-012B-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-903-012B-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 2; Le.,
No. 2.8e+02;
- 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 548;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 5; DB 2; Leng
Pred, No. 2.8e+02;
APPLICANT: Chappell, Joseph
APPLICANT: Chappell, Joseph
APPLICANT: Chappell, Joseph
APPLICANT: Starks, Courtney M.
APPLICANT: Starks, Courtney M.
APPLICANT: Manna, Kathleen R.
TITLE OF INVENTION: SYNTHASES
TITLE OF INVENTION: SYNTHASES
TITLE APPLICATION NUMBER: US/09/903,012B
CURRENT APPLICATION NUMBER: 06/100,993
PRIOR FILING DATE: 1998-09-18
PRIOR FILING DATE: 1998-04-22
PRIOR FILING DATE: 1999-04-22
PRIOR FILING DATE: 1999-04-23
NUMBER OF SEQ ID NOS: 58
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Chappell, Joseph
APPLICANT: Chappell, Joseph
APPLICANT: Chappell, Joseph
APPLICANT: Starks, Courtney M.
APPLICANT: Starks, Courtney M.
TITLE COF INVENTION: SYNTHASES
FILE REPERBNCE: 07678-025001
CURRENT APPLICATION NUMBER: 105/09/903,012B
CURRENT PELLING DATE: 2001-07-11
PRIOR FILING DATE: 1998-09-18
PRIOR FILING DATE: 1998-04-22
PRIOR APPLICATION NUMBER: 60/130,628
PRIOR FILING DATE: 1999-04-22
PRIOR FILING DATE: 1999-04-22
PRIOR FILING DATE: 1999-08-23
NUMBER OF SEQ ID NOS: 58
SOFTWARE: FREUSED FOR WINDOWS VETSION 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        55.6%; Score 5; DB 2
100.0%; Pred. No. 2.8
tive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 55.6%; Score 5; DB 2
Best Local Similarity 100.0%; Pred. No. 2.6
Matches 5; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 8, Application US/09903012B Patent No. 6569656
                                                                                                                                                                                                                                                                                                                                                                                                          ; TYPE: PRT
; ORGANISM: Nicotiana tabacum
US-09-903-012B-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: PRT ORGANISM: Nicotiana tabacum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity 100.
```

US-09-900-797-2

```
Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  55.6%; Score 5; DB 2; Length 548; 100.0%; Pred. No. 2.8e+02; vative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 55.6%; Score 5; DB 2; Length 548; Best Local Similarity 100.0%; Pred. No. 2.8e+02; Matches 5; Conservative 0; Mismatches 0; Indels
             Sequence 2, Application US/09900797

Sequence 2, Application US/09900797

GENERAL INFORMATION:
APPLICANT: Chappell, Joseph
APPLICANT: Starks, Courtney M.
APPLICANT: Starks, Courtney M.
APPLICANT: Starks, Courtney M.
APPLICANT: Manna, Kathleen R.
ITILE OF INVENTION: SYNTHASES
FILE REFERENCE: 0767-025001
CURRENT APPLICATION NUMBER: US/09/900, 797
CURRENT PILING DATE: 2001-07-06
FRIOR FILING DATE: 1999-09-17
PRIOR FILING DATE: 1999-09-17
PRIOR FILING DATE: 1999-04-22
PRIOR FILING DATE: 1999-04-22
PRIOR FILING DATE: 1999-04-23
NUMBER OF SEQ ID NOS: 58
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 2
LENGTH: 548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    JOS-09-00-797-4

JOS-09-00-797-4

Patent No. 6645762

GENERAL INFORMATION:

APPLICANT: Chappell, Joseph

APPLICANT: Starks, Courtney M.

APPLICANT: Starks, Courtney M.

APPLICANT: Manna, Kathleen R.

TITLE OF INVENTION: SYNTHASES

FILE REFERENCE: 07678-025001

CURRENT APPLICATION NUMBER: US/09/900, 797

CURRENT PILING DATE: 1999-04-17

FRICR APPLICATION NUMBER: 60/130, 628

FRICR PILING DATE: 1999-04-22

FRICR APPLICATION NUMBER: 60/150, 262

FRICR PILING DATE: 1999-04-22

FRICR PILING DATE: 1999-04-22

FRICR PILING DATE: 1999-04-22

FRICR PILING DATE: 1999-08-23

NUMBER OF SEQ ID NOS: 58

SOFTWARE: FASESEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Beet Local Similarity 100.uv
Trahes 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORGANISM: Nicotiana tabacum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; TYPE: PRT
; ORGANISM: Nicotiana tabacum
US-09-900-797-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         300 VDDTF 304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        300 VDDTF 304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-900-797-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 66
US-09-900-797-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQ ID NO 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 55.6%; Score 5; DB 2; Length 548; Best Local Similarity 100.0%; Pred. No. 2.8e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 55.6%; Score 5; DB 2; Length 548; Best Local Similarity 100.0%; Pred. No. 2.8e+02; Matches 5; Conservative 0; Mismatches 0; Indels
APPLICANT: Chappell, Joseph
APPLICANT: Chappell, Joseph
APPLICANT: Rarks, Courtney M.
APPLICANT: Starks, Courtney M.
APPLICANT: Manna, Kathleen R.
TITLE OF INVENTION: SYNTHASES
FILE REFERENCE: 07678-02501
CURRENT PAPLICATION NUMBER: 05/09/903,012B
CURRENT FILING DATE: 2001-07-11
PRIOR APPLICATION NUMBER: 60/100,993
PRIOR FILING DATE: 1999-09-18
PRIOR PILING DATE: 1999-04-22
PRIOR FILING DATE: 1999-04-22
PRIOR FILING DATE: 1999-08-23
NUMBER OF SEQ ID NOS: 58
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 10
SEQ ID NO 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 12. Application US/09903012B
Fatent No. 656956
GENERAL INFORMATION:
APPLICANT: Chappell, Joseph
APPLICANT: Chappell, Joseph
APPLICANT: Chappell, Joseph
APPLICANT: GEATKS, Courtney M.
APPLICANT: Manna, Kathleen R.
TITLE OF INVENTION: SYNTHASES
FILE REFRENCE: 07678-02501
CURRENT APPLICATION NUMBER: US/09/903,012B
CURRENT FILING DATE: 1998-09-18
FRIOR APPLICATION NUMBER: 60/100,993
FRIOR PILING DATE: 1999-04-22
FRIOR APPLICATION NUMBER: 60/130,628
FRIOR APPLICATION NUMBER: 60/130,628
FRIOR APPLICATION NUMBER: 60/130,628
FRIOR FILING DATE: 1999-08-23
FRIOR APPLICATION NUMBER: 60/130,628
FRIOR FILING DATE: 1999-08-33
NUMBER OF SEQ ID NOS: 58
SOFTWARE: FASESEC for Windows Version 3.0
SEQ ID NO 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; LOCATION: (1) ... (548)
; OTHER INFORMATION: Xaa = Any Amino Acid
US-09-903-012B-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; ORGANISM: Nicotiana tabacum
US-09-903-012B-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM: Nicotiana tabacum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    300 VDDTF 304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                300 VDDTP 304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NAME/KEY: VARIANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-903-012B-12
```

ò

ö

ö

RESULT 67 US-09-900-797-6

RESULT 65

셤 ઠે

```
300 VDDTF 304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1||||
300 VDDTF 304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LENGTH: 548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQ ID NO 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 55.6%; Score 5; DB 2; Length 548; Best Local Similarity 100.0%; Pred. No. 2.8e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 55.6%; Score 5; DB 2; Length 548; Best Local Similarity 100.0%; Pred. No. 2.8e+02; Matches 5; Conservative 0; Mismatches 0; Indels
Sequence 6, Application US/09900797
Patent No. 6645762
GENERAL INPORMATION:
APPLICANT: Chappell, Joseph
APPLICANT: Starks, Courtney M.
APPLICANT: Starks, Courtney M.
APPLICANT: Manna, Kathleen R.
TITLE OF INVENTION: SYNTHASES
FILE REFERENCE: 07678-025001
CURRENT APPLICATION NUMBER: US/09/900,797
CURRENT FILING DATE: 2001-07-06
PRIOR PRIOR APPLICATION NUMBER: 60/130,628
PRIOR FILING DATE: 1999-09-17
PRIOR FILING DATE: 1999-09-17
PRIOR FILING DATE: 1999-08-23
PRIOR FILING DATE: 1999-08-23
NUMBER OF SEQ ID NOS: 58
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 6
LENGTH: 548
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Chappell, Joseph
APPLICANT: Chappell, Joseph
APPLICANT: No. 66457621, Joseph P.
APPLICANT: No. 66457621, Joseph P.
APPLICANT: Starks, Courtney M.
APPLICANT: Starks, Courtney M.
TITLE OF INVENTION: SYNTHASES
FILE REFERENCE: 07678-025001
CURRENT APPLICATION NUMBER: US/09/308,395
PRIOR PILING DATE: 1999-09-17
PRIOR PRILING DATE: 1999-09-17
PRIOR PILING DATE: 1999-09-17
PRIOR PILING DATE: 1999-08-22
PRIOR APPLICATION NUMBER: 60/150,262
PRIOR PILING DATE: 1999-08-23
NUMBER OF SEQ ID NOS: 58
SOFTWARE: FastSEQ for Windows Version 3.0
SENGTH: 548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; Sequence 10, Application US/09900797
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 8, Application US/09900797
Patent No. 6645762
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: PRT; ORGANISM: Nicotiana tabacum
US-09-900-797-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             300 VDDTF 304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           300 VDDTF 304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 69
US-09-900-797-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 68
US-09-900-797-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
```

```
ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 548;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  55.6%; Score 5; DB 2; Length 548; 100.0%; Pred. No. 2.8e+02; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             55.6%; Score 5; DB 2; Length 548; 100.0%; Pred. No. 2.8e+02; tive 0; Mismatches 0; Indels
APPLICANT: Chappell, Joseph
APPLICANT: Chappell, Joseph
APPLICANT: No. 6457721, Joseph
APPLICANT: Starks, Courtney M.
APPLICANT: Starks, Courtney M.
APPLICANT: Manna, Kathleen R.
TITLE OF INVENTION: SYNTHASES
FILE REFERENCE: 07678-025001
CURRENT APPLICATION NUMBER: US/09/990,797
CURRENT FILING DATE: 1999-09-17
PRIOR PILING DATE: 1999-09-17
PRIOR FILING DATE: 1999-09-17
PRIOR PILING DATE: 1999-08-22
PRIOR PILING DATE: 1999-08-23
NUMBER OF SEQ ID NOS: 58
SOFTWARE: FestsEQ for Windows Version 3.0
SEQ ID NO 10
LENGTH: 548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-900-797-12

Sequence 12, Application US/09900797

Sequence 12, Application US/09900797

GENERAL INFORMATION:

APPLICANT: Chappell, Joseph

APPLICANT: Starks, Courtney M.

APPLICANT: Manna, Kathleen R.

TITLE OF INVENTION: SYNTHASES

FILE REFERENCE: 07678-02501,

CURRENT FILING DATE: 2001-07-06

PRIOR APPLICATION NUMBER: US/09/398,395

PRIOR APPLICATION NUMBER: 60/130,628

PRIOR FILING DATE: 1999-09-17

PRIOR FILING DATE: 1999-09-17

PRIOR FILING DATE: 1999-08-23

NUMBER OF SEQ ID NOS: 58

NUMBER OF SEQ ID NOS: 58
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   : NAME/KY: VARIANT
: LOCATION: (1)...(548)
: OTHER INFORMATION: Xaa = Any Amino Acid
US-09-900-797-12
                                                                                                                                                                                                                                                                                                                                                                                                                                            ; ORGANISM: Nicotiana tabacum
US-09-900-797-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: PRT
ORGANISM: Nicotiana tabacum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity 100.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity 100."
Matches 5; Conservative
```

300 VDDTF 304

ద

-09-893-820-2

```
Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 2; Length 548;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity 100.0%; Pred. No. 2.8e+02; Similarity 100.0%; Pred. No. 2.8e+02; S. Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 8, Application US/09893820
Sequence 8, Application US/09893820
Falent No. 6890752
GENERAL INFORMATION:
APPLICANT: No. 68907521, Joseph
APPLICANT: Starks, Courtney M.
APPLICANT: Starks, Courtney M.
APPLICANT: Manna, Kathleen R.
TITLE OF INVENTION: SYNTHASES
FILE REFERENCE: 07678-02501
CURRENT APPLICATION NUMBER: US/09/398,395A
FRIOR APPLICATION NUMBER: US/09/398,395A
FRIOR APPLICATION NUMBER: 60/100,993
FRIOR APPLICATION NUMBER: 60/130,628
FRIOR PILING DATE: 1998-09-18
FRIOR FILING DATE: 1999-09-18
FRIOR FILING DATE: 1999-08-23
NUMBER OF SEQ ID NOS: 58
SOFTWARE: FRAEKEQ for Windows Version 3.0
SEQ ID NO 8
                                                                                                                                                                                   APPLICANT: Chappell, Joseph
APPLICANT: Chappell, Joseph
APPLICANT: Starks, Courtney M.
APPLICANT: Starks, Courtney M.
APPLICANT: Manna, Kathleen R.
ITILE OF INVENTION: SYNTHASES
FILE REFRERENC: 07678-02501
CURRENT APPLICATION NUMBER: US/09/893,820
CURRENT FILING DATE: 2001-06-28
PRIOR PRILING DATE: 1999-09-17
PRIOR PILING DATE: 1999-09-18
PRIOR PILING DATE: 1998-09-18
PRIOR PILING DATE: 1998-09-18
PRIOR PILING DATE: 1999-04-22
PRIOR PILING DATE: 1999-04-22
PRIOR PILING DATE: 1999-04-23
NUMBER OF SEQ ID NOS: 58
SOFTWARE: FastSEQ for Windows Version 3.0
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  55.6%; Score 5; DB 2
100.0%; Pred. No. 2.6
tive 0; Mismatches
                                               RESULT 73
US-09-893-820-6
; Sequence 6, Application US/09893820
; Satisfied No. 6890752
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; ORGANISM: Nicotiana tabacum
US-09-893-820-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; ORGANISM: Nicotiana tabacum
US-09-893-820-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity 100.4
.....hes 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       300 VDDTF 304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 74
US-09-893-820-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LENGTH: 548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 2; Length 548; . 2.8e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 55.6%; Score 5; DB 2; Length 548; Best Local Similarity 100.0%; Pred. No. 2.8e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0; Indels
GENERAL INFORMATION:
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Chappell, Joseph
APPLICANT: Chappell, Joseph
APPLICANT: Starks, Courtney M.
APPLICANT: Manna, Kathleen R.
ITILE OF INVENTION: SYNTHASES
FILE REPERENCE: 07678-025001.
CURRENT PILING DATE: 2001-06-28
FRIOR APPLICATION NUMBER: US/09/398,395A
FRIOR APPLICATION NUMBER: 60/100,993
FRIOR PILING DATE: 1999-09-17
PRIOR APPLICATION NUMBER: 60/100,993
FRIOR PILING DATE: 1999-09-18
FRIOR PILING DATE: 1999-09-18
FRIOR FILING DATE: 1999-09-22
FRIOR FILING DATE: 1999-08-23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 55.6%; Score 5; DB 2
Best Local Similarity 100.0%; Pred. No. 2.8
Matches 5; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 4, Application US/09893820
Batent No. 6890752
GENERAL INFORMATION:
APPLICANT: Chappell, Joseph
APPLICANT: Starks, Courtney M.
APPLICANT: Starks, Courtney M.
APPLICANT: Manna, Kathleen R.
TITLE OF INVENTION: SYNTHASES
FILE REFERENCE: 0'678-02501
CURRENT FILING DATE: 2001-06-28
FRIOR PILING DATE: 1999-09-17
PRIOR APPLICATION NUMBER: US/09/398,395A
PRIOR APPLICATION NUMBER: 60/100,993
PRIOR PILING DATE: 1998-09-18
PRIOR PILING DATE: 1998-09-18
PRIOR PILING DATE: 1998-09-18
PRIOR PILING DATE: 1999-04-22
PRIOR PILING DATE: 1999-04-22
PRIOR PILING DATE: 1999-04-22
PRIOR PILING DATE: 1999-04-22
PRIOR PILING DATE: 1999-04-23
NUMBER OF SEQ ID NOS: 56
SOFTWARE: FRAESEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ) ORGANISM: Nicotiana tabacum
US-09-893-820-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORGANISM: Nicotiana tabacum
US-09-893-820-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    300 VDDTF 304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQ ID NO 2
LENGTH: 548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQ ID NO 4
LENGTH: 548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-893-820-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
```

ö

ö

Gaps

ö

Matches

ô

셤

ઠે

```
Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                         US-08-443-639-8

Sequence 8, Application US/08443639

Sequence 8, Application US/08443639

Patent No. 5981843

APPLICANT: Chappell, Joseph
APPLICANT: Yin, Shaobui

APPLICANT: Cornett, Catherine A.G.

TITLE OF INVENTION: Transcriptional Control Sequences and
TITLE OF INVENTION: Methods
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 8, Application US/08577483
; Patent No. 6100451
; GENERAL INFORMATION:
APPLICANT: Chappell, Joseph
; APPLICANT: Yin, Shaohui
; APPLICANT: Ornett, Catherine A.G.
TITLE OF INVENTION: Transcriptional Control Sequences and
                                                                                         Length 548;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 1; Length 550;
                                                                                                                                     0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: Eloppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/443,639
FILING DATE: 18-MAY-1995
CLASSIFICATION: 80
ATTORNEY/AGENT INFORMATION:
NAME: Ferber, Donna M.
REFERENCE/DOCKET NUMBER: 69-94
TELECOMMUNICATION INDER: 69-94
TELECOMMUNICATION INDER: 69-94
                                                                                       55.6%; Score 5; DB 2; Le:
100.0%; Pred. No. 2.8e+02;
tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                55.6%; Score 5; DB 1; Lei
100.0%; Pred. No. 2.8e+02;
tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3370 Manhattan Circle, Suite 201

    LOCATION: (1)...(548)
    OTHER INFORMATION: Xaa = Any Amino Acid
US-09-893-820-12

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEPAONE: (303) 499-8080
TELEFAX: (303) 499-8089
INFORMATION FOR SEQ ID NO: 8:
SEQUENCE CHARACTERISTICS:
                                                                  Query Match
Best Local Similarity 100.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity 100.
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LENGTH: 550 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; TOPOLOGY: linear; MOLECULE TYPE: protein US-08-443-639-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
ADDRESSEE: Greenlee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      amino acid
GY: linear
                                                                                                                                                                                                                        300 VDDTF 304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 302 VDDTF 306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STREET: 53...
                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2 VDDTF 6
                                                                                                                                                                               2 VDDTF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ZIP: 80303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STATE: C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-08-577-483-8
                                                                                                                                                                                                                                                                                         RESULT 77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 78
                                                                                                                                                                                                                      g
                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 2; Length 548;
0. 2.8e+02;
ches 0; Indels
                                                                                                                     RESULT 75

US-09-893-820-10

Sequence 10, Application US/09893820

Patent No. 6890752

GENERAL INFORMATION:

APPLICANT: Chappell, Joseph
APPLICANT: Starks, Courtney M.

TITLE REPERENCE: O7678-02501

CURRENT PAILOR DATE: 2001-06-28

FILE REFERENCE: 07678-02501

CURRENT FILING DATE: 1999-09-17

PRIOR FILING DATE: 1999-09-18

PRIOR FILING DATE: 1999-09-18

PRIOR FILING DATE: 1999-09-18

PRIOR FILING DATE: 1999-09-18

PRIOR FILING DATE: 1999-09-17

PRIOR FILING DATE: 1999-09-18

PRIOR FILING DATE: 1999-08-23

NUMBER OF SEQ ID NOS: 58

SOFFWARE: PRESEC FOR WINGON VERSION 3.0

SOFFWARE: PRESEC FOR WINGON WERSION 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 55.6%; Score 5; DB 2
100.0%; Pred. No. 2.8
:ive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 12, Application US/09893820
Patent No. 6890752
GENERAL INFORMATION:
APPLICANT: Chappell, Joseph
APPLICANT: Chappell, Joseph
APPLICANT: Starks, Courtney M.
APPLICANT: Starks, Courtney M.
APPLICANT: Manna, Kathleen R.
TITLE OF INVENTION: SYATHASES
FILE REFERENCE: 07678-025001
CURRENT APPLICATION NUMBER: US/09/893,820
CURRENT FILING DATE: 1999-09-17
PRIOR FILING DATE: 1999-09-17
PRIOR FILING DATE: 1999-09-18
PRIOR FILING DATE: 1999-09-18
PRIOR FILING DATE: 1999-09-18
PRIOR FILING DATE: 1999-09-22
PRIOR FILING DATE: 1999-08-22
PRIOR FILING DATE: 1999-08-23
PRIOR FILING DATE: 1999-08-23
SOFTWARE: FABLICATION NUMBER: 60/150,262
PRIOR FILING DATE: 1999-08-23
SOFTWARE: FABLICATION NUMBER: 60/150,262
PRIOR FILING DATE: 1999-08-23
NUMBER OF SEQ ID NOS: 58
SOFTWARE: FABLICATION NUMBER: 60/150,262
PRIOR PILING DATE: 1999-08-23
TYPE: PRI
CHENGTH: 548
TYPE: PRI
CHENGTH: 548
TYPE: PRI
CHENGTH: 548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: PRT ORGANISM: Nicotiana tabacum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity 100.
Matches 5, Conservative
                                                              300 VDDTF 304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     300 VDDTF 304
                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURE:
NAME/KEY: VARIANT
                       2 VDDTF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-09-893-820-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQ ID NO 10
LENGTH: 548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-893-820-10
```

g

ð

```
Gaps
                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                    DB 2; Length 550; . 2.8e+02;
                                                                                                                                                                                                                                                                                                                                                                           0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 556;
                                                                                                                                                                                                                                                                                                                    55.6%; Scc...
100.0%; Pred. No. ...
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                55.6%; bcc...
100.0%; Pred. No. ...
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Chappell, Joseph
APPLICANT: Chappell, Joseph
APPLICANT: Starks, Courtney M.
APPLICANT: Starks, Courtney M.
APPLICANT: Manna, Kathleen R.
ITILE OF INVENTION: SYNTHASES
FILE REFERENCE: 07678-02501
CURRENT PPLICATION NUMBER: U509/398,395A
CURRENT FILING DATE: 1999-09-18
PRIOR APPLICATION NUMBER: 60/100,993
PRIOR FILING DATE: 1999-09-18
PRIOR FILING DATE: 1999-04-22
PRIOR FILING DATE: 1999-04-22
PRIOR FILING DATE: 1999-04-23
NUMBER OF SEQ ID NOS: 58
SOFTWARE: PSELSEE OF WINDOWS VERSION 3.0
SSOFTWARE: PSELSEE OF WINDOWS VERSION 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-887-586A-32
Sequence 32, Application US/09887586A
Sequence 32, Application US/09887586A
GENERAL INFORMATION:
APPLICANT: Chappell, Joseph P.
APPLICANT: No. 64953541, Joseph P.
APPLICANT: Manna, Kathleen R.
TITLE OF INVENTION: SYNTHASES
FILE REPERENCE: 07678-02501,
CURRENT APPLICATION NUMBER: US/09/887,586A
CURRENT FILING DATE: 2001-06-22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-398-395A-32
; Sequence 32, Application US/0939B395A
Patent No. 646B772
; GENERAL INFORMATION:
        ATTORNEY/AGENT INPORMATION:
NAME: FEEDER, Donna M.
REGISTRATION NUMBER: 33.78
REFERENCE/DOCKET NUMBER: 69-9
TELECOMUNICATION INFORMATION:
TELEPHONE: (303) 499-8080
TELEPHONE: (303) 499-8080
INFORMATION FOR SEQ ID NO: 8:
SEQUENCE CHARACTERISTICS:
LENGTH: 550 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORGANISM: Solanum tuberosum
                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity 100.
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity 100.
Matches 5; Conservative
                                                                                                                                                                                                                                  ; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-09-435-380-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                           302 VDDTF 306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            308 VDDTF 312
                                                                                                                                                                                                                                                                                                                                                                                                                      2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-09-398-395A-32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 8, Application US/09435380
Patent No. 6605764
GENERAL INFORMATION:
APPLICANT: Chappell, Joseph
APPLICANT: Yin, Shaohui
APPLICANT: Cornett, Catherine A.G.
TITLE OF INVENTION: Transcriptional Control Sequences and
TITLE OF INVENTION: Methods
NUMBER OF SEQUENCES: 13
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        55.6%; Score 5; DB 2; Length 550; 100.0%; Pred. No. 2.8e+02; tive 0; Mismatches 0; Indels
                                                                                               STREET: 225 Franklin Street
CITY: Boston
STATE: MA
COUNTRY: US
CONDITY: Boston
STATE: MA
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: 1BM PC-DOS/NS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/577,483
FLING DATE: 22-DEC-1995
CLASSIFICATION: 800
ATTORNEY AARD IT Clark
REGISTRATION: WUMBER: 32,164
REGISTRATION NUMBER: 32,164
REFERENCE/DOCKET NUMBER: 07678/003001
TELEPHONE: (617) 542-5070
TELEPHONE: (617) 542-5070
TELERX: 200154
INPORMATION FOR SEQ ID NO: 8:
SEQUENCE CHARACTERISTICS:
LENGTH: 550 amino acids
TOPLOGICA: 11 acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOFTWARE: Patentin Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/435,380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADDRESSEE: Greenlee and Winner, P.C.
STREET: 5370 Manhattan Circle, Suite 201
CITY: Boulder
STATE: CO
COUNTRY: US
ZIP: 80303
COMPUTER READBLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC COMpatible
OPERATING SYSTEM: PC-DOS/MS-DOS
TITLE OF INVENTION: Methods
NUMBER OF SEQUENCES: 14
CORRESPONDENCE ADDRESS:
ADDRESSEE: Fish & Richardson, P.C.
STREET: 225 Pranklin Street
CITY: Boston
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/443,639
PILING DATE: 18-MAY-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity 100.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TOPOLOGY: linear

MOLECULE TYPE: protein

US-08-577-483-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  302 VDDTF 306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE:
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-435-380-8
```

ô

```
Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        55.6%; Score 5; DB 2; Length 556; 100.0%; Pred. No. 2.8e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            55.6%; Score 5; DB 2; Length 556; 100.0%; Pred. No. 2.88+02; cive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Sequence 3.7 Application US/09900797 | Patent No. 6645762 | GENERAL INFORMATION: APPLICANT: Chappell, Joseph | APPLICANT: Chappell, Joseph | APPLICANT: Chappell, Joseph | APPLICANT: Chappell, Joseph | APPLICANT: Starks, Coutrney M. APPLICANT: Manna, Kathleen R. TITLE OF INVENTION: SYNTHASES | FILE REFERENCE: 076*0500, 797 | CURRENT APPLICATION NUMBER: US/09/398, 395 | PRIOR FILING DATE: 1999-09-17 | PRIOR FILING DATE: 1999-09-17 | PRIOR FILING DATE: 1999-04-12 | PRIOR FILING DATE: 1999-04-12 | PRIOR FILING DATE: 1999-04-22 | PRIOR FILING DATE: 1999-04-22 | PRIOR FILING DATE: 1999-04-23 | NUMBER OF SEQ ID NOS: 58 | SOFTWARE: FastSEQ for Windows Version 3.0 | SEQ ID NO 3: 56
CURRENT FILING DATE: 2001-07-11
PRIOR APPLICATION NUMBER: 60/100,993
PRIOR FILING DATE: 1998-09-18
PRIOR FILING DATE: 1998-09-18
PRIOR FILING DATE: 1999-04-22
PRIOR FILING DATE: 1999-04-22
PRIOR FILING DATE: 1999-08-23
NUMBER OF SEQ ID NOS: 58
SOFTWARE: PastSEQ for Windows Version 3.0
SEQ ID NO 32
LENGTH: 556
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 32, Application US/09893820; Patent No. 6890752; GENERAL INFORMATION: APPLICANT: Chappell, Joseph; APPLICANT: Chappell, Joseph; APPLICANT: Starks, Courtray M.; APPLICANT: Manna, Kathleen R.; TITLE OF INVENTION: SYNTHASES; FILE REFERENCE: 07679-025001; CURRENT APPLICATION NUMBER: US/09/693,820; CURRENT FILING DATE: 2001-06-28
                                                                                                                                                                                                                                                                                                                                                                TYPE: PRT ORGANISM: Solanum tuberosum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORGANISM: Solanum tuberosum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 308 VDDTF 312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               308 VDĎTP 312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-903-012B-32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 84
US-09-900-797-32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 85
US-09-893-820-32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-900-797-32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 55.6%; Score 5; DB 2; Length 556; Best Local Similarity 100.0%; Pred. No. 2.8e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 5; DB 2; Length 556;
Pred. No. 2.8e+02;
0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 31, Application US/09903012B
Patent No. 6569656
GENERAL INFORMATION:
APPLICANT: Chappell, Joseph
APPLICANT: Starks, Courtney M.
APPLICANT: Manna, Kathleen R.
FILE OF INVENTION: SYNTHASES
FILE OF INVENTION: 370THASES
FILE REFERENCE: 07678-025001
CURRENT APPLICATION NUMBER: US/09/903,012B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gequence 32, Application US/09895752
| Patent No. 6559297 | GENERAL INFORMATION |
| APPLICANT: Chappell, Joseph |
| APPLICANT: Chappell, Joseph |
| APPLICANT: Starks, Courtney M. |
| APPLICANT: Bana, Kathleen R. |
| TITLE OF INVENTION SYNTHASES |
| FILE REFERENCE: O'678-02501 |
| CURRENT APPLICATION NUMBER: US/09/895,752 |
| CURRENT FILING DATE: 2001-06-29 |
| PRIOR FILING DATE: 1999-09-17 |
| PRIOR FILING DATE: 1998-09-18 |
| PRIOR FILING DATE: 1998-09-38 |
| PRIOR FILING DATE: 1998-09-38 |
| PRIOR FILING DATE: 1998-09-39 |
| PRIOR FILING DATE: 1999-09-31 |
| PRIOR FILING DATE: 1999-09-31 |
| PRIOR FILING DATE: 1998-09-31 |
| PRIOR FILING DATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 55.6%; Score 5; DB 2
Best Local Similarity 100.0%; Pred. No. 2.8
Matches 5; Conservative 0; Mismatches
                       PRIOR FILING DATE: 1999-09-17
PRIOR APPLICATION NUMBER: 60/130,628
PRIOR FILING DATE: 1999-04-22
PRIOR FILING DATE: 1999-04-22
PRIOR FILING DATE: 1999-08-23
NUMBER OF SEQ ID NOS: 58
SOCTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 32
LENGTH: 556
   PRIOR APPLICATION NUMBER: 09/398,395
                                                                                                                                                                                                                                                                                                                                                         ; ORGANISM: Solanum tuberosum
US-09-887-586A-32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORGANISM: Solanum tuberosum
US-09-895-752-32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   308 VDĎTF 312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          308 VDDTF 312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-903-012B-32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-895-752-32
                                                                                                                                                                                                                                                                                                                              PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
```

```
Sequence 16044, Application US/09248796A

Sequence 16044, Application US/09248796A

Patent No. 6747137

GENERAL INFORMATION:

APPLICANT: Keith Weinstock et al

TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO CANDIDA ALBICA

TITLE OF INVENTION: NUCLEIC ACID AND THERAPEUTICS

TITLE OF INVENTION: UNDER: 1050/248,796A

CURRENT APPLICATION NUMBER: US/09/248,796A

CURRENT FILING DATE: 1999-02-12
                   Sequence 11767, Application US/09902540

| Sequence 11767, Application US/09902540
| Patent No. 6833447
| GENERAL INCORMATION:
| APPLICANT: Hinkle, Gregory J.
| APPLICANT: Glater, Steven C.
| APPLICANT: Stater, Steven C.
| TILE OF INVENTION: Myxococcus xanthus Genome Sequences and Uses Thereof TILE REFERENCE: 38-10(15849)B
| CURRENT PILING DATE: 2001-07-10
| PRIOR APPLICATION NUMBER: 60/217,883
| PRIOR FILING DATE: 2000-07-10
| NUMBER OF SEQ ID NOS: 16825
| SEQ ID NO 11767
| ERWORT SET SEQ ID NOS: 16825
| LENGTH: 567
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Goldman, Barry S.
APPLICANT: Goldman, Barry S.
APPLICANT: Hinkle, Gregory J.
APPLICANT: Slater, Steven C.
APPLICANT: Slater, Steven C.
APPLICANT: Wiegand, Roger C.
TITLE OF INVENTION: Myxococcus xanthus Genome Sequences and Uses Thereof FILE REFERENCE: 38-10(15849)B
CURRENT FILING DATE: 2001-07-10
PRIOR APPLICATION NUMBER: 60/217,883
PRIOR FILING DATE: 2000-07-10
NUMBER OF SEQ ID NOS: 16825
SEQ ID NO 12279
LENGTH: 581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 567;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            55.6%; Score 5; DB 2; Length 581; 100.0%; Pred. No. 2.9e+02; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 5; DB 2; Le
Pred. No. 2.9e+02
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                55.6%; Scc...
100.0%; Pred. No. ...
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; Sequence 12279, Application US/09902540; Patent No. 6833447; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORGANISM: Myxococcus xanthus US-09-902-540-11767
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; TYPE: PRT
; ORGANISM: Myxococcus xanthus
US-09-902-540-12279
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity 100.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity 100.
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  379 VDDTF 383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    307 VDDTF 311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-248-796A-16044
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                               55.6%; Score 5; DB 2; Length 556; 100.0%; Pred. No. 2.8e+02; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 566;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 55.6%; Score 5; DB 2; Length 566; Best Local Similarity 100.0%; Pred. No. 2.8e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: IRIE, RYOTARD
APPLICANT: TAMBCHIKA, ICHIRO
APPLICANT: SEKI, NAOHIKO
APPLICANT: SOSHIKAWA, TGHIRO
APPLICANT: YOSHIKAWA, TSUTOMU
APPLICANT: OTSUKA, MOTOVUKI
APPLICANT: NAGHARI, KENJI
APPLICANTON: NOWEL FULL-LENGTH CDNA
FILE REPERENCE: 004335/0160
CURRENT APPLICATION NUMBER: 60/350,435
PRIOR PILING DATE: 2002-01-24
PRIOR APPLICATION NUMBER: JP 2001-328381
PRIOR PILING DATE: 2001-09-14
NUMBER OF SEQ ID NOS: 3381
SOFTWARE PALENTIN VET: 2.1
PRIOR APPLICATION NUMBER: US/09/398,395A
PRIOR FILING DATE: 1999-09-17
PRIOR FILING DATE: 1999-09-17
PRIOR APPLICATION NUMBER: 60/100,993
PRIOR FILING DATE: 1999-04-22
PRIOR APPLICATION NUMBER: 60/130,628
PRIOR APPLICATION NUMBER: 60/150,262
PRIOR PILING DATE: 1999-08-23
NUMBER: OF SEQ ID NOS: 58
SEQ ID NO 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 2545, Application US/10094749 Patent No. 6979557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        OTSUKI, TETSUJI
WAKAMATUSI,
SATO, HIROYUKI
ISHII, SHIZUKO
YAWAMOTO, UUN-ICHI
ISONO, YUUKO
HIO, YURI
                                                                                                                                                                                                                                                           ; LENGTH: 556
; TYBE: PRT
; ORGANISM: Solanum tuberosum
US-09-893-820-32
                                                                                                                                                                                                                                                                                                                                                                           Query Match 55.6
Best Local Similarity 100.
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   OTSUKA, KAORU
NAGAI, KEIICHI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-094-749-2545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       308 VDDTF 312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        178 KVDDT 182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2 VDDIF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -10-094-749-2545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠે
```

```
US-09-248-796A-20875

i Sequence 20875, Application US/09248796A

i Patent No. 674137

j Patent No. 674137

i TITLE OF INVENTION:

i TITLE OF INVENTION NUMBER:

i PRIOR PILING DATE: 1998-02-13

i PRIOR PILING DATE: 1998-08-13

i NUMBER OF SEQ ID NOS: 28208

i SEQ ID NO 20875

i LENCTH: 812

    Sequence 18967, Application US/09248796A
    Patent No. 6747137
    GENERAL INFORMATION:
        APPLICATIN Keith Weinstock et al
        TIPLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO CANDIDA ALBICAN
        TITLE OF INVENTION: FOR DIAGNOSTICS AND THERAPEUTICS

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENERAL INFORMATION:

APPLICANT: GATY Breton et. al

TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO KLEBSIELLA
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO KLEBSIELLA
TITLE OF INVENTION: NUMBER: US/09/489, 039A
TITLE OF INVENTION UNMBER: US/09/489, 039A
CURRENT PELLING DATE: 2000-01-27
PRIOR APPLICATION NUMBER: US 60/117,747
NUMBER OF SEQ ID NOS: 14342
SEQ ID NO 8469
LENGTH: 825
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     55.6%; Score 5; DB 2; Length 825; 100.0%; Pred. No. 3.9e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 2; Length 812;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 55.6%; Score 5; DB 2; Lei
Best Local Similarity 100.0%; Pred. No. 3.9e+02;
Matches 5; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 8469, Application US/09489039A Patent No. 6610836
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORGANISM: Klebsiella pneumoniae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: PRT ORGANISM: Candida albicans
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Local Similarity 100.
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      159 VDDTF 163
                                                        16 KVDDT 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 14 VDDTF 18
        1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-248-796A-20875
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-09-248-796A-18967
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 93
US-09-489-039A-8469
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-09-489-039A-8469
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 94
                                                     요
          Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 2284, Application US/09540236

Batent No. 6673910
GENERAL INFORMATION:
GENERAL INFORMATION:
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO MORAXELLA CATAR
TITLE OF INVENTION: FOR DIAGNOSTICS AND THERAPEUTICS
TITLE REPRENCE: 2709-2005-001
CURRENT FILING DATE: 2000-04-04
SEQ ID NOS: 3840
SEQ ID NO 2284
LENGTH: 783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
APPLICANT: Kelth Weinstock et al
APPLICANT: Kelth Weinstock et al
APPLICANT: Reith Weinstock et al
APPLICANT: Kelth Weinstock et al
APPLICANT: Kelth Weinstock et al
APPLICANT: REFERENCE: 107196.132
CURRENT APPLICATION NUMBER: US/09/248,796A
CURRENT PILING DATE: 1999-02-12
PRIOR APPLICATION NUMBER: US 60/074,725
PRIOR APPLICATION NUMBER: US 60/074,725
PRIOR APPLICATION NUMBER: US 60/096,409
PRIOR FILING DATE: 1998-02-13
PRIOR FILING DATE: 1998-08-13
                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                 .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match 55.6%; Score 5; DB 2; Length 651; Best Local Similarity 100.0%; Pred. No. 3.2e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 55.6%; Score 5; DB 2; Length 783; Best Local Similarity 100.0%; Pred. No. 3.8e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                           Length 584;
                                                                                                                                                                                                                                                                                        55.6%; Score 5; DB 2; Len
100.0%; Pred. No. 2.9e+02;
tive 0; Mismatches 0;
                        PRIOR FILING DATE: 1998-02-13
PRIOR APPLICATION NUMBER: US 60/096,409
PRIOR FILING DATE: 1998-08-13
NUMBER OF SEQ ID NOS: 28208
SEQ ID NO 16044
LENGTH: 584
PRIOR APPLICATION NUMBER: US 60/074,725
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-248-796A-17444
; Sequence 17444, Application US/09248796A
; Patent No. 6747137
                                                                                                                                                                                                             ORGANISM: Candida albicans
                                                                                                                                                                                                                                                                Query Match
Best Local Similarity 100..
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM: Candida albicans
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; TYPE: PRT
; ORGANISM: M.catarrhalis
US-09-540-236-2284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     445 KVDDT 449
                                                                                                                                                                                                                                                                                                                                                                                                                                                  80 VDDTF 84
                                                                                                                                                                                                                                                                                                                                                                                               2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 KVDDT 5
                                                                                                                                                                                                                                       US-09-248-796A-16044
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-248-796A-17444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-540-236-2284
                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
```

```
399 DDTFY 403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |||||
528 DDTFY 532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      239 KVDDT 243
                                                                                                                                                                                                      3 DDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3 DDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-252-991A-27976
                                                                                                                                                                                                                                                                                                             RESULT 97
US-09-270-767-42083
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: PRT ORGANISM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURE:
                                                                                                                                                                                                                                              g
                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ð
                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 5052, Application US/09134000C

Patent No. 6617156

GENERAL INFORMATION:

TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO TITLE REPERENCE: 032796-032

CURRENT APPLICATION NUMBER: US/09/134,000C

CURRENT FILING DATE: 1998-08-13

PRIOR FILING DATE: 1997-08-15

NUMBER OF SEQ ID NOS: 6812

SOFTWARE: PatentIn version 3.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 4697, Application US/09134000C

Batent No. 6617156

GENERAL INFORMATION:
APPLICANT: Lynn Doucette-Stamm et al
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO
TITLE OF INVENTION: ENTEROCOCCUS FAECALIS FOR DIAGNOSTICS AND THERAPEUTICS
FILE REPERENCE: 032796-032
CURRENT FILING DATE: 1990-08-13
PRIOR APPLICATION NUMBER: 1990-08-13
PRIOR FILING DATE: 1997-08-15
NUMBER OF SEQ ID NOS: 6812
SOFTWARE: Patentin version 3.1
SEQ ID NO 4697
                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ) NAMB/KEY: MISC_FEATURE
) LOCATION: (9)..(9)
) CTHER INFORMATION: Amino acid 9 is Xaa wherein Xaa = any amino acid.
US-09-134-000C-5052
                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                      Query Match 55.6%; Score 5; DB 2; Length 832; Best Local Similarity 100.0%; Pred. No. 3.9e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                55.6%; Score 5; DB 2; Length 869;
100.0%; Pred. No. 4.1e+02;
tive 0; Mismatches 0; Indels
FILE REFERENCE: 107196.132
CURRENT APPLICATION NUMBER: US/09/248,796A
CURRENT FILING DATE: 1999-02-12
PRIOR APPLICATION NUMBER: US 60/074,725
PRIOR FILING DATE: 1998-02-13
PRIOR FILING DATE: 1998-08-13
PRIOR FILING DATE: 1998-08-13
NUMBER OF SEQ ID NOS: 28208
SEQ ID NO 18967
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM: Enterococcus faecalis
                                                                                                                                                                                                                                       ; ORGANISM: Candida albicans
US-09-248-796A-18967
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity 100.
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                       508 KVDDT 512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    670 KVDDT 674
                                                                                                                                                                                                                                                                                                                                                                                             1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-134-000C-5052
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-134-000C-4697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQ ID NO 5052
LENGTH: 869
                                                                                                                                                                                                                        TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                     a
                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
```

```
Sequence 27976, Application US/09252991A

Sequence 27976, Application US/09252991A

Sequence 27976, Application US/09252991A

Baten No. 6551795

GENERAL INFORMATION:
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PSEUDOMONAS
TITLE OF INVENTION: AERUGINOSA POR DIAGNOSTICS AND THERAPEUTICS

TITLE OF INVENTION: AERUGINOSA POR DIAGNOSTICS AND THERAPEUTICS

FILE REFERENCE: 107196.136

CURRENT PELLING DATE: 1999-02-18

PRIOR PELLING DATE: 1999-02-18

PRIOR PELLING DATE: 1998-02-18

PRIOR FILING DATE: 1998-02-18

NUMBER OF SEQ ID NOS: 33142

SEG ID NO 27976

LENGTH: 1123
                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                    Sequence 42083, Application US/09270767

Sequence 42083, Application US/09270767

Fatent No. 6703491

GENERAL INFORMATION:

APPLICANT: Homburger et al.

TITLE OF INVENTION: Nucleic acids and proteins of Drosophila melanogaster FILE REFRENCE: File Reference: 7326-094

CURRENT APPLICATION NUMBER: US/09/270,767

CURRENT FILING DATE: 1999-03-17

SOFWARE: PatentIn Ver. 2.0

SEQ ID NO 42083

LENGTH: 910
                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                       ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                55.6%; Score 5; DB 2; Length 1123; 100.0%; Pred. No. 5.1e+02; cive 0; Mismatches 0; Indels
                                                                                                 Query Match 55.6%; Score 5; DB 2; Length 899; Best Local Similarity 100.0%; Pred. No. 4.2e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 910;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               55.6%; Score 5; DB 2; Le 100.0%; Pred. No. 4.3e+02; iive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; OTHER INFORMATION: Xaa means any amino acid
US-09-270-767-42083
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: PRT ORGANISM: Drosophila melanogaster
; TYPE: PRT
; ORGANISM: Enterococcus faecalis
US-09-134-000C-4697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          : Pseudomonas aeruginosa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity 100.1
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5; Conservative
```

```
NUMBER OF SEQ ID NOS: 259
SOFTWARE: PatentIn version 3.1
                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity 100.
Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4; Conservative
                                                                                                                                                                                                                                                                    ; ORGANISM: Homo sapiens
US-09-747-408-22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ) ORGANISM: Homo sapiens
US-09-996-288-23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                          1 KVDD 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 KVDD 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 DIFY 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 102
US-09-996-288-23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQ ID NO 23
                                                                                                                                                                                                                                                  TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                                                                                                            ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-09-949-016-10490

Sequence 10490, Application US/09949016

TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF

TITLE OF INVENTION UNMBER: US/09/949,016

CURRENT PILING DATE: 2000-04-14

PRIOR PELING DATE: 2000-10-20

PRIOR APPLICATION NUMBER: 60/231,768

PRIOR PILING DATE: 2000-10-03

PRIOR PILING DATE: 2000-10-03

PRIOR PILING DATE: 2000-10-03

PRIOR PILING DATE: 2000-10-03

PRIOR PILING DATE: 2000-09-08

NUMBER OF SEQ ID NOS: 207012

SOCTHARE: PESECRE for Windows Version 4.0

SEQ ID NO 10490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
           Sequence 82, Application US/09862027

Fatent No. 6858418

GENERAL INFORMATION:

APPLICANT: Hodge, Martin R.

TITLE OF INVENTION: No. 6858418e1 Kinases and Uses Thereof
FILE REFERENCE: 35800/234862

CURRENT APPLICATION NUMBER: US/09/862,027

CURRENT APPLICATION NUMBER: US 09/345,473

PRIOR PILING DATE: 1999-06-30

NUMBER OF SEQ ID NOS: 82

SOFTWARE: FastSEQ for Windows Version 4.0

SEQ ID NO 82

LENGTH: 1109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         55.6%; Score 5; DB 2; Length 1309; 100.0%; Pred. No. 5.8e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            55.6%; Score 5; DB 2; Length 1912; 100.0%; Pred. No. 8e+02; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                            NAME/KEY: VARIANT
COCATION: (1)...(1309)
COTHER INFORMATION: Xaa = Any Amino Acid
US-09-862-027-82
                                                                                                                                                                                                                                                                                                                               TYPE: PRT ORGANISM: Schizosaccharomyces pombe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 101
US-09-747-408-22
Sequence 22, Application US/09747408
Patent No. 6670399
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity 100.0
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity 100...
Loca 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1078 VDDTF 1082
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1710 VDDTF 1714
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; ORGANISM: Human
US-09-949-016-10490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2 VDDTF
US-09-862-027-82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠે
```

```
Sequence 23, Application US/0996288

Sequence 23, Application US/0996288

GENERAL INFORMATION:
APPLICANT: Scott, Koenig

APPLICANT: Leslie, Johnson

TITLE OF INVENTION: and Treatment

TITLE OF INVENTION: and Treatment

TITLE OF INVENTION: and Treatment

TITLE OF INVENTION: US/09/996, 288

CURRENT APPLICATION NUMBER: US/09/996, 288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-09-96-288-90

| Sequence 90, Application US/0996288
| Sequence 90, Application:
| APPLICANT: Scott, Koenig
| APPLICANT: Leslie, Johnson
| TITLE OF INVENTION: Methods of Adminstering/Dosing Anti-RSV Antibodies for Prophylaxn
| TITLE OF INVENTION: and Treatment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ;
0
APPLICANT: Green, Allan M.

APPLICANT: Gervais, Francine
TITLE OF INVENTION: Compounds And Methods For Modulating
TITLE OF INVENTION: Cerebral Amyloid Angiopathy
TITLE OF INVENTION: Cerebral Amyloid Angiopathy
FILE REFERENCE: NBI-088
CURRENT APPLICATION NUMBER: US/09/747,408
CURRENT FILING DATE: 2000-12-22
FRICH APPLICATION NUMBER: 60/171,877
FRICH FILING DATE: 1999-12-23
NUMBER OF SEQ ID NOS: 24
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 22
LEAGTH: 6
                                                                                                                                                                                                                                                                                                                                                                                                                               / DB 2; Le._
No. 5e+05;
0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 44.4%; Score 4; DB 2; L
100.0%; Pred. No. 5e+05;
ative 0; Mismatches 0
                                                                                                                                                                                                                                                                                                                                                                                                                                               44.4%; Score 4; DB 2
100.0%; Pred. No. 5e+
tive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILE REFERENCE: 10271-047-999
CURRENT APPLICATION NUMBER: US/09/996,288
CURRENT FILING DATE: 2001-11-28
NUMBER OF SEQ ID NOS: 259
SOFTWARE: Patentin version 3.1
SEQ ID NO 90
LENGTH: 7
```

```
Sequence 90, Application US/09996265
Fatent NO. 6855493
GENERAL INFORMATION:
APPLICANT: Young, James
APPLICANT: Scott, Koenig
APPLICANT: Leslie, Johnson
ITILE OF INVENTION: Methods of Adminstering/Dosing Anti-RSV Antibodies for Prophylax
ITILE OF INVENTION: and Treatment
ITILE REPERENCE: 10271-048-999
CURRENT APPLICATION NUMBER: US/09/996, 265
CURRENT FILING DATE: 2001-11-28
NUMBER OF SEQ ID NOS: 259
SOUTHWARE: Patentin version 3.1
SEQ ID NO 90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 99, Application US/0996265
Fatent No. 6855493
GENERAL INFORMATION:
APPLICANT: Young, James
APPLICANT: Young, James
TITLE OF INVENTION: Methods of Adminstering/Dosing Anti-RSV Antibodies for Prophylax
TITLE OF INVENTION: and Treatment
TITLE REFERENCE: 10271-048-999
CURRENT APPLICATION NUMBER: US/09/996,265
CURRENT PILING DATE: 2001-11-28
NUMBER OF SEQ ID NOS: 259
SOUTHARE: Patentin version 3.1
SEQ ID NO 99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-10-092-263-4

Sequence 4, Application US/10092263

Sequence 4, Application US/10092263

Sequence 4, Application US/10092263

Sequence 4, Application US/1009263

Sequence 4, Application US/1009263

PETER REPERENCE: CT-26570P

CURRENT APPLICATION NUMBER: US/10/092,263

CURRENT FILING DATE: 2002-06-04

NUMBER OF SEQ ID NOS: 8

SEQ ID NO 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  44.4%; Score 4; DB 2; Length 7;
100.0%; Pred. No. 5e+05;
iive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Se+05;
Se+05;
The operation of section of the secti
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pred. No. 5e-
Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       44.4%; Sc.
100.0%; Pre
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity 100.
Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               , ORGANISM: Homo sapiens
US-09-996-265-99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Best Local Similarity
Matches 4; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |||||
DTFY 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4 DTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 DTFY 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 107
US-09-996-265-99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-996-265-90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LENGIH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 99, Application US/09996288

Patent No. 6818216

GENERAL INFORMATION:
APPLICANT: Scott, Koenig
APPLICANT: Leslie, Johnson
TITLE OF INVENTION: and Treatment
TITLE OF INVENTION: and Treatment
CURRENT APPLICATION NUMBER: US/09/996,288

CURRENT PILING DATE: 2001-11-28

NUMBER OF SEQ ID NOS: 259

SOFTWARE: Patentin version 3.1

SEQ ID NO 99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 23, Application US/09996265
Patent No. 6855493
GENERAL INFORMATION:
APPLICANT: Voung, James
APPLICANT: Leslie, Johnson
TITLE OF INVENTION: Methods of Adminstering/Dosing Anti-RSV Antibodies for Prophylaxi
TITLE OF INVENTION: Methods of Adminstering/Dosing Anti-RSV Antibodies for Prophylaxi
TITLE OF INVENTION: Methods of Adminstering/Dosing Anti-RSV Antibodies for Prophylaxi
TITLE OF INVENTION: Mumber: US/09/996, 265
CURRENT APPLICATION NUMBER: US/09/996, 265
CURRENT APPLICATION DATE: 2001-11-28
NUMBER OF SEQ ID NOS: 259
SOFTWARE: PatentIn version 3.1
                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                    44.4%; Score 4; DB 2; Length 7; 100.0%; Pred. No. 5e+05; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match

44.4%; Score 4; DB 2; Length 7;
Best Local Similarity 100.0%; Pred. No. Se+05;
Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     44.4%; Score 4; DB 2; Length 7; 100.0%; Pred. No. 5e+05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity 100.0
Matches 4; Conservative
                                                                                                                                                                      4; Conservative
; ORGANISM: Homo sapiens
US-09-996-288-90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: PRT
ORGANISM: Homo sapiens
US-09-996-288-99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; ORGANISM: Homo sapiens
US-09-996-265-23
                                                                                                    Query Match
Best Local Similarity
Matches 4; Conserv
                                                                                                                                                                                                                                    4 DTFY 7
                                                                                                                                                                                                                                                                                                      1 DIFY 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4 DTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 DTFY 4
                                                                                                                                                                                                                                                                                                                                                                                             RESULT 104
US-09-996-288-99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 105
US-09-996-265-23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQ ID NO 23
                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
```

```
APPLICANT: Widgren, Esther E.
APPLICANT: Highard T.
APPLICANT: Lea, Isabel
TITLE OF INVENTION: Sperm Antigen Corresponding to a
TITLE OF INVENTION: Sperm Antigen Corresponding to a
TITLE OF INVENTION: Sperm Zona Binding Protein Autoantigenic Epitope
NUMBER OF SEQUENCES: 51
CORRESPONDENCE ADDRESS:
ADDRESSEE: Kenneth D. Sibley
STREET: P.O. Box 34009
CITY: Charlotte
STATE: No. 5480799th Carolina
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 22, Application US/08436772
Patent No. 5814456
GENERAL INFORMATION:
APPLICANT: O'Rand, Michael G.
APPLICANT: Widgren, Esther E.
APPLICANT: Richardson, Richard T.
APPLICANT: Lasa, Isabel
ITILE OF INVENTION: Sperm Antigen Corresponding to a Sperm
TITLE OF INVENTION: Zona Binding Protein Autoantigenic Epitope
CORRESPONDENCES: 60
CORRESPONDENCES: ADDRESS:
ADDRESSEE: Renneth D. Sibley
STREET: P.O. Box 34009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               44.4%; Score 4; DB 1; Length 10; 100.0%; Pred. No. 1.3e+02;
                                                                                                                                                                                                                                                                                                                   ZIP: 28234
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/166,195A
FILING DATE: 10 DEC 1993
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Sibley, Kenneth D.
REGISTRATION NUMBER: 31,665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ZIP: 28234
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/NS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/436,772
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              100.08; Prec. ... 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CITY: Charlotte
STATE: No. 5814456th Carolina
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE/DOCKET NUMBER: 547C
TELECOMMUNICATION INFORMATION:
TELEPHONE: 919-881-3140
INFORMATION FOR SEQ ID NO: 23:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LENGTH: 10 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity 100.
Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TOPOLOGY: linear MOLECULE TYPE: peptide US-08-166-195A-23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 KVDD 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-08-436-772-22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ਨੇ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 22, Application US/08166195A

Sequence 22, Application US/08166195A

Sequence 22, Application US/08166195A

GENERAL INFORMATION:

APPLICANT: O'Rand, Michael G.

APPLICANT: Richardson, Richard T.

APPLICANT: Lea, Isabel

APPLICANT: Lea, Isabel

TITLE OF INVENTION: Sperm Zona Binding Protein Autoantigenic Epitope

TITLE OF INVENTION: Sperm Zona Binding Protein Autoantigenic Epitope

CORRESPONDENCE: 51

ADDRESSEE: Kenneth D. Sibley

STREET: P.O. Box 34009

CITY: Charlotte

STATE: NO. 5480799th Carolina
                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                               Query Match

44.4%; Score 4; DB 2; Length 8;
Best Local Similarity 100.0%; Pred. No. 5e+05;
Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              44.4%; Score 4; DB 1; Length 10; 100.0%; Pred. No. 1.3e+02; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    O'BERMILING SISLEM: FC_LOUS, MOSTER, BL. 25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/166,195A
FILING DATE: 10 DEC 1993
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: SIDLEY, Kenneth D.
REGISTRATION NUMBER: 31,665
REFERENCE/DOCKET NUMBER: 5470/73
TELECOMMUNICATION INFORMATION:
TELEPHONE: 919-881-3176
INFORMATION FOR SEQ ID NO: 22:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ZIP: 28234
COMPUTER READABLE FORM:
MEDIUM TYPE: Flopy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-08-166-195A-23
; Sequence 23, Application US/08166195A
; Patent No. 5480799
; GENERAL INFORMATION:
; APPLICANT: O'Rand, Michael G.
                                                  ; TYPE: PRT
; ORGANISM: Pichia methanolica
US-10-092-263-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               10 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; TOPOLOGY: linear
; MOLECULE TYPE: peptide
US-08-166-195A-22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
Matches 4; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 KVDD 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           KVDD 9
                                                                                                                                                                                                                                                                                                                                                                                            US-08-166-195A-22
                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                            а
```

;

```
Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                     APPLICANT: O'Rand, Michael G.
APPLICANT: Widgren, Esther E.
APPLICANT: Richardson, Richard T.
APPLICANT: Lea, Isabel
TITLE OF INVENTION: Sperm Antigen Corresponding to a Sperm
TITLE OF INVENTION: Zona Binding Protein Autoantigenic Epitope
NUMBER OF SEQUENCES: 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 23, Application US/08436883B
Patent No. 5820861
GENERAL INFORMATION:
APPLICANT: O'Rand, Michael G.
APPLICANT: Widgren, Esther E.
APPLICANT: Richardson, Richard T.
APPLICANT: Lea, Isabel
ITILE OF INVENTION: Sperm Antigen Corresponding to a Sperm
ITILE OF INVENTION: Zona Binding Protein Autoantigenic Epitope
NUMBER OF SEQUENCES: 60
                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 1; Length 10;
0. 1.3e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COUNTRY: Dong
ZIP: 28234

COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/436,883B
FILING DATE: 08-MXY-1995
ATTORNEY/AGENT INFORMATION:
NAME: SIDLEY, Kenneth D.
REGISTRATION NUMBER: 31,665
REPERBNES/DOCKET NUMBER: 31,665
REPERBNES/DOCKET NUMBER: 5470-73C
TELECOMMUNICATION INFORMATION:
TELEPHONE: 919-420-2200
TELEFAX: 919-881-3175
INFORMATION FOR SEQ ID NO: 22:
SEQUENCE CHARACTERISTICS:
LENGTH: 10 amino acids
             0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match

44.4%; Score 4;
Best Local Similarity 100.0%; Pred. No
Matches 4; Conservative 0; Mismat
                                                                                                                                                                                                        Sequence 22, Application US/08436883B Patent No. 5820861
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STREET P.O. DOT. CITY: Charlotte STATE: No. 5820861th Carolina STATE: No. 5820861th Carolina
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Kenneth D. Sibley
             4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                        CORRESPONDENCE ADDRESS: ADDRESSER: Kenneth D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 linear
                                                                                   3 KVDD 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        KVDD 9
                                                                                                                                                                                        US-08-436-883B-22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-08-436-883B-22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-08-436-883B-23
             Matches
                                                          à
                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: O'RANGE MICHAEL G.
APPLICANT: Widgren, Bither E.
APPLICANT: Richardson, Richard T.
APPLICANT: Richardson, Richard T.
APPLICANT: Lea, Isabel
TITLE OF INVENTION: Sperm Antigen Corresponding to a Sperm
TITLE OF INVENTION: Zona Binding Protein Autoantigenic Epitope
NUMBER OF SEQUENCES: 60
CORRESPONDENCE ADDRESS:
ADDRESSEE: Kenneth D. Sibley
STREET: P.O. Box 34009
CITY: Charlotte
STATE: No. 5814456th Carolina
                                                                                                                                                                                                                                                                                                                                                                                                                                                               .
                                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                Score 4; DB 1; Length 10;
Pred. No. 1.3e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       44.4%; Score 4; DB 1; Length 10; 100.0%; Pred. No. 1.3e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/436,772
FILING DATE: 08-MAY-1995
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Sibley, Renneth D.
REGISTRATION NUMBER: 31,665
REFERENCE/COMPUTER: 5470-73B
TELECOMMUTCATION:
TELEPHONE: 919-881-3140
                                                                                                                                                                                                                                                                                                                                                                                                44.4%; Sco...
100.0%; Pred. No....
0; Mismatches
FILING DATE: 08-MAY-1995
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Sibley, Kenneth D.
REGISTRATION NUMBER: 31,665
REFERENCE/DOCKET NUMBER: 5470-73B
TELECOMMUNICATION INFORMATION:
TELEPHONE: 919-881-3140
TELEPRAX: 919-881-3175
INFORMATION FOR SEQ ID NO: 22:
SEQUENCE CHARACTERISTICS:
LENGTH: 10 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 23, Application US/08436772
Patent No. 5814456
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LENGTH: 10 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity 100.
Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELEFAX: 919-881-3175
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                       TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                     TOPOLOGY: linear MOLECULE TYPE: peptide US-08-436-772-22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 KVDD 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-08-436-772-23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-08-436-772-23
```

ð g Gaps

```
PEATURE:
OTHER INFORMATION: Description of Artificial Sequence: Synthetic
OTHER INFORMATION: peptide
                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL INCORMATION:
APPLICANT: ALmoto, Saburho
TITLE OF INVENTION: METHOD FOR PREPARING PEPTIDE THIOL ESTER
FILE REFERENCE: 31763-138092
CURRENT APPLICATION NUMBER: US/09/200,757
CURRENT FILING DATE: 1998-11-27
NUMBER OF SEQ ID NOS: 7
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 4
                                                                                                                                                                                                                                                                                FEATURE:
; OTHER INFORMATION: this peptide has an amidated C-terminus US-09-200-757-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; OTHER INFORMATION: this peptide has an amidated C-terminus US-09-200-757-4
                                                                                                                                                                                                                                                                                                                                                             44.4%; Score 4; DB 2; Length 10; 100.0%; Pred. No. 1.3e+02; Artive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         44.4%; Score 4; DB 2; Les 100.0%; Pred. No. 1.3e+02; ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 3, Application US/07712476A
Patent No. 5304496
GENERAL INFORMATION:
TITLE OF INVENTION:
TITLE OF INVENTION: Biological Regulation of
TITLE OF INVENTION: Mineralization
NUMBER OF SEQUENCES:
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                             LOCATION: (10)
OTHER INFORMATION: Gly(S-C(CH3)2CH2-CO)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LOCATION: (10)
OTHER INFORMATION: Gly(S-C(CH3)2CH2-CO)
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-200-757-4; Sequence 4, Application US/09200757; Patent No. 6277958
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: PRT
ORGANISM: Artificial Sequence
                                                                                   LOCATION: (6) -
OTHER INFORMATION: Thr(But)
                          OTHER INFORMATION: Thr (But)
                                                                                                                                                                 LOCATION: (8) OTHER INFORMATION: Lys (Boc)
                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity 100.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity luv...
4; Conservative
                                                                                                                                                                                                      FEATURE:
NAME/KEY: MOD RES
LOCATION: (10)
                                                                 NAME/KEY: MOD_RES
                                                                                                                                             NAME/KEY: MOD_RES
LOCATION: (8)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURE:
NAME/KEY: MOD_RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3 DDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 117
US-07-712-476A-3
                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                OTHER INFORMATION: Description of Artificial Sequence: Synthetic OTHER INFORMATION: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 115
US-09-200-757-3
; Sequence 3, Application US/09200757
; Patent No. 6277958
; GENERAL INFORMATION:
; APPLICANT: Aimoto, Saburho
; TITLE OF INVENTION: METHOD FOR PREPARING PEPTIDE THIOL ESTER
; FILE REFERENCE: 31763-138092
; CURRENT FILING DATE: 1998-11-27
; NUMBER OF SEQ ID NOS: 7
; SEQ ID NO 3
; SEQ ID NO 3
; LENGTH: 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 4; DB 1; Length 10;
Pred. No. 1.3e+02;
                                                                                              COMPUTER READBLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER READBLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
CORREATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/436,883B
FILING DATE: 08-MAY-1995
CIASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Sibley, Kenneth D.
REGISTRATION NUMBER: 31,665
REFERENCE/DOCKET NUMBER: 5470-73C
TELEPHONE: 919-420-2200
TELEPHONE: 919-881-3175
INFORMATION FOR SEQ ID NO: 23:
SEQUENCE CHARACTERISTICS:
LENGTH: 10 amino acids
ADDRESSEE: Kenneth D. Sibley
STREET: P.O. Box 34009
CITY: Charlotte
STATE: No. 5820861th Carolina
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: PRT
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              OTHER INFORMATION: Asp (OBut) FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LOCATION: (2) TOTHER INFORMATION: Asp (OBut)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LOCATION: (3) TOTHER INFORMATION: Asp (OBut)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity 100.
Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TOPOLOGY: linear
MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME/KEY: MOD_RES
LOCATION: (1)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURE:
NAME/KEY: MOD RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME/KEY: MOD_RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NAME/KEY: MOD RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3 KVDD 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-08-436-883B-23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ۵
```

ö

```
.
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 44.4%; Score 4; DB 1; Length 16; Best Local Similarity 100.0%; Pred. No. 1.9e+02; Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                         APPLICANT: Roman M. Chicz
APPLICANT: Bario A. A. Vignali
APPLICANT: Dario A. A. Vignali
APPLICANT: Mary L. Hedley
APPLICANT: Lawrence J. Stern
APPLICANT: Jack L. Stronhinger
TITLE OF INVENTION: IMMNOMODULATORY PEPTIDES
NUMBER OF SEQUENCES: 274
CORRESPONDENCE ADDRESS:
ADDRESSEE: Fish & Richardson
STREET: 225 Franklin Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INCORMATION:
APPLICANT: Robert G. Urban
APPLICANT: Robert G. Urban
APPLICANT: Robert G. Urban
APPLICANT: Dario A. A. Vignali
APPLICANT: Dario A. A. Vignali
APPLICANT: Lavence J. Stern
APPLICANT: Lavence J. Stern
APPLICANT: Jack L. Strominger
ITILE OF INVENTION: IMMUNOMODULATORY PEPTIDES
NUMBER OF SEQUENCES: 274
CORRESSEE: Fish & Richardson
STREET: L25 Franklin Street
CITY: Boston
STATE: Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STATE: Massachusetts
COUNTRY: U. S. Massachusetts
ZIP: 02110-2804
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
COMPUTER: IBM PS/2 Model 502 or 555X
OPERATING SYSTEM: MS-DOS (Version 5.0)
SOFTWARE: MORDERECT (Version 5.1)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/480,190
FILING DATE:
CLASSIFICATION DATA:
APPLICATION NUMBER: 09/07,255
FILING DATE: June 15, 1993
APPLICATION NUMBER: 07/925,460
FILING DATE: August 11, 1992
ATTORNEY/AGATI INFORMATION:
NAME: Clark, Paul T:
REGISTRATION NUMBER: 30,162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; Sequence 171, Application US/08488379
; Patent No. 5880103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEX: 200154
INFORMATION FOR SEQ ID NO: 171:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STATE: Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: amino acid STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; TOPOLOGY: linear
US-08-480-190-171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Boston
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 120
US-08-488-379-171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5204097-4
;Patent No. 5204097
;Patent No. 5204097
APPLICANT: ARNON, RUTH;HARARI, ILANA;KEUSCH, GERALD T.
;DONOHUB-ROLFR, ARTHUR
;TITLE OF INVENTION: SHIGA TOXIN B CHAIN POLYPEPTIDES AND;VACCINE THERETO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 44.4%; Score 4; DB 7; Length 14; Best Local Similarity 100.0%; Pred. No. 1.7e+02; Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           44.4%; Score 4; DB 1; Length 14; 100.0%; Pred. No. 1.7e+02; tive 0; Mismatches 0; Indels
                                                                                                                                                                          COUNTRY: USA

COUNTRY: USA

ZIP: 19103

COMPUTER READABLE FORM:
MEDIUM TYPE: DISKETTE, 3.5 INCH, 1.44 Mb STORAGE
COMPUTER: IBM PS/2
OPERATING SYSTEM: PC DOS
SOFTWARE: WORDERPECT 5.0
CURRENT APPLICATION DATA:
PPLICATION NUMBER: US/07/712,476A
FILING DATE: 19910610
CLASSIFICATION BATA:
APPLICATION NUMBER: US/07/712,476A
FILING DATE: 31910610
CLASSIFICATION DATA:
APPLICATION NUMBER:
FILING DATE: 32,279
REFERENCE/DOCKET NUMBER: UPN 0473
TELECOMMUNICATION INFORMATION:
TELECOMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION
ADDRESSEE: Woodcock Washburn Kurtz Mackiewicz & ADDRESSEE: No. 5304496ris
STREET: One Liberty Place 46th Floor
CITY: Philadelphia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQUENCES: 5
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/364,506
FILING DATE: 09-UNN-1989
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 70,243
FILING DATE: 06-JUL-1987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 171, Application US/08480190 Patent No. 5827516
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH: 14 amino acids
TYPE: AMINO ACID
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity 100.(
Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3 DDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LENGTH: 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-08-480-190-171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-07-712-476A-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQ ID NO:4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5204097-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
```

```
TELEX: 200154
INFORMATION FOR SEQ ID NO: 171:
SEQUENCE CHARACTERISTICS:
LENGTH: 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELEPHONE: (617) 542-50
TELEFAX: (617) 542-8906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4; Conservative
                                                                                                                                                                                                                                                                                                                                                          ; TYPE: amino acid
; TOPOLOGY: linear
US-08-475-399A-171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; TOPOLOGY: linear
US-08-077-255A-171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
Matches 4; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Boston
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 122
US-08-077-255A-171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match

44.4%; Score 4; DB 1; Length 16;
Best Local Similarity 100.0%; Pred. No. 1.9e+02;
Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 111, Application US/08475399A; Sequence 111, Application US/08475399A; Patent No. 6509033; GENERAL INFORMATION: APPLICANT: Urban, Robert G. APPLICANT: Urban, Robert G. APPLICANT: Ugnali, Dario A.A. APPLICANT: Stern, Lawrence J. APPLICANT: Stern, Lawrence J. TITLE OF INVENTION: IMMUNOMODULATORY PEPTIDES NUMBER OF SEQUENCES: 276
CORRESPONDENCE ADDRESS: ADDRESSE: Fish & Richardson, P.C. STREET: 225 Franklin Street
CITY: Boston
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COUNTY: US
ZIP: 02110-2804
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
COMPUTER: IBM Compatible
OPERATING SYSTEM: Windows95
SOFTWARE: FastSEQ for Windows Version 2.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/475,399A
FILING DATE: 07-JUN-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/077,255
FILING DATE: 15-JUN-1993
APPLICATION NUMBER: 07/925,460
                  COMPUTER READABLE PORM:
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
COMPUTER: IBM PS/2 Model 50Z or 55SX
COMPUTER: IBM PS/2 Model 50Z or 55SX
COMPUTER: IBM PS/2 Model 50Z or 55SX
OPERATING SYSTEM: MS-DOS (Version 5.1)
SOFTWARE: WordPerfect (Version 5.1)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/488,379
FILING DATE:
CLASSIFICATION NUMBER: 09/077,255
FILING DATE: June 15, 1993
APPLICATION NUMBER: 07/925,460
FILING DATE: August 11, 1992
APPLICATION NUMBER: 30,162
REJECATION NUMBER: 30,162
REJECOMUNICATION NUMBER: 30,162
REPERRENCE/DOCKET NUMBER: 00246/168001
TELECOMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELEFAX: (617) 542-8906
TELES: 200154
INFORMATION FOR SEQ ID NO: 171:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: amino acid STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; TOPOLOGY: linear
US-08-488-379-171
COUNTRY: U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2 VDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 121
US-08-475-399A-171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
```

```
Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                        44.4%; Score 4; DB 2; Length 16; 100.0%; Pred. No. 1.9e+02; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INPORMATION:
APPLICANT: Robert G. Urban
APPLICANT: Roman M. Chicz
APPLICANT: Bario A. A. Vignali
APPLICANT: Darvence J. Stern
APPLICANT: Lavrence J. Stern
APPLICANT: Jack L. Strominger
TITLE OF INVENTION: IMMNOMODULATORY PEPTIDES
NUMBER OF SEQUENCES: 274
CORRESPONDENCE ADDRESS:
ADDRESSEE: Fish & Richardson
STREET: 225 Franklin Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CUNTRY: Massachusetts
CUNTRY: U.S.A.
ZIH: 0210-2804
COMPUTER: U.S.A.
COMPUTER: READABLE FORM:
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
COMPUTER: TBM F8/2 Model 502 or 55SX
COMPUTER: TBM F8/2 Model 502 or 55SX
COMPUTER: TBM F8/2 Model 502 or 55SX
COMPUTER: WordPerfect (Version 5.0)
SOFTWARE: WordPerfect (Version 5.1)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/077,25SA
FILING DATE: June 15, 1993
CLASSIFICATION DATA:
APPLICATION NUMBER: 07/925,460
FILING DATE: August 11, 1992
ATTORNEY/AGENT INFORMATION:
NAME: Clark, Paul T.
REGISTRATION NUMBER: 30,162
RESTERNEY DOCKET NUMBER: 30,162
RESTERNEY DOCKET NUMBER: 00246/168001
TELEPHONE: (617) 542-5070
                                                                                                                 00246/168003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; Sequence 171, Application US/08077255A
; Patent No. 6696061
FILING DATE: 11-AUG-1992
ATTORNEY/AGENT INFORMATION:
NAME: Fraser, Jania K.
REGISTRATION NUMBER: 34,819
REFERENCE/DOCKET NUMBER: 00246
TELECOMMUNICATION INFORMATION:
TELEPHONE: 617/542-897
TELEFR: 200154
INFORMATION FOR SEQ ID NO: 171:
SEQUENCE CHARACTERISTICS:
LENGTH: 16 amino acids
```

```
44.4%; Score 4; DB 1; Length 17; 100.0%; Pred. No. 2e+02; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 108, Application US/08480190
| Patent No. 5827516
| GENERAL INFORMATION:
| APPLICANT: Robert G. Urban
| APPLICANT: Roman M. Chicz
| APPLICANT: Dario A. A. Vignali
| APPLICANT: Mary L. Hedley
| APPLICANT: Lawrence J. Stern
| APPLICANT: Jawrence J. Stern
| APPLICANT: Jawrence J. Stern
| TITLE OF INVENTION: IMMINOMODULATORY PEPTIDES
| NUMBER OF SEQUENCES: 274
                                                  APPLICANT: Lawrence J. Stern
APPLICANT: Jack L. Strominger
APPLICANT: Jack L. Strominger
TITLE OF INVENTION: IMMUNOMODULATORY PEPTIDES
NUMBER OF SEQUENCES: 274
CORRESPONDENCE ADDRESS:
STREET: 225 Franklin Street
                                                                                                                                                                                                                                                                                                              COUNTRY: US.A.

ZIP: O2110-2804

ZIP: O2110-2804

COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
COMPUTER: IBM PS/2 Model 502 or 553X
OPERATING SYSTEM: MS-DOS (Version 5.0)
SOFTWARE: Worlderfect (Version 5.1)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/480,190
FILING DATE:
CLASSIFICATION NUMBER: 08/07/255
FILING DATE: AUDIER: 07/925,460
FILING DATE: AUDIER: 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CITY: Boston
STATE: Massachusetts
COUNTRY: U.S.A.
ZIP: 02110-2804
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS:
ADDRESSEE: Fish & Richardson
STREET: 225 Franklin Street
                    Mary L. Hedley
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Local Similarity 100.
Matches 4; Conservative
                                                                                                                                                                                                                                       STREET: 225 Franklin
CITY: Boston
STATE: Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: amino acid STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; TOPOLOGY: linear
US-08-480-190-97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-08-480-190-108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠે
                                                                             ö
                                                                             Gaps
                                                                             .;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
Ouery Match 44.4%; Score 4; DB 2; Length 16; Best Local Similarity 100.0%; Pred. No. 1.9e+02; Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   44.4%; Score 4; DB 5; Length 16; 100.0%; Pred. No. 1.9e+02; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                   GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Robert G. Urban
APPLICANT: Robert G. Urban
APPLICANT: Roman M. Chicz
APPLICANT: Mary L. Hedler
APPLICANT: Mary L. Hedler
APPLICANT: Lawrence J. Stern
APPLICANT: Lawrence J. Stern
TILE OF INVENTION: IMMUNOMODULATORY PEPTIDES
ITLE OF ENGENERS:
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STATE: MASSACHISECTS
COUNTRY: U.S.A.
ZIP: 02110-2804
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
COMPUTER: IBM PS/2 Model 50Z or 55SX
OPERATING SYSTEM: MS-DOS (Version 5.0)
SOFTWARE: WordPerfect (Version 5.1)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US93/07545
FILING DATE: 19930811
CLASSIFICATION:
PRIOR APPLICATION:
PRIOR APPLICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/925,460
FILING DATE: AUGUST 11, 1992
ATYNEY AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   00246/168001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-08-480-190-97; Sequence 97, Application US/08480190; Patent No. 5827516; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME: Clark, Paul T.
REGISTRATION UNDRER: 30,162
REFERENCE/DOCKET NUMBER: 00246
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 542-5070
TELEPAX: (617) 542-8906
TELERX: 200154
INPORMATION FOR SEQ ID NO: 171:
SEQUENCE CHARACTERISTICS:
LENGTH: 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   E: Fish & Richardson 225 Franklin Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Robert G. Urban
APPLICANT: Roman M. Chicz
APPLICANT: Dario A. A. Vignali
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CITY: Boston
STATE: Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: amino acid
STRANDEDNESS:
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PCT-US93-07545-171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VDDT
                                                                                                                                                                                                                                                                                          RESULT 123
PCT-US93-07545-171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                      ઠે
```

Gaps

ô

```
ö
                                                                                                                                                                                                                                                                                                                                   44.4%; Score 4; DB 1; Length 17; 100.0%; Pred. No. 2e+02; ative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Robert G. Urban
APPLICANT: Robert G. Urban
APPLICANT: Roman M. Chicz
APPLICANT: Dario A. A. Vignali
APPLICANT: Mary L. Hedley
APPLICANT: Lawrence J. Stern
APPLICANT: Jack L. Strominger
TITLE OF INVENTION: IMMUNOMODULATORY PEPTIDES
NUMBER OF SEQUENCES: 274
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STATE: Massachusetts
COUNTRY: U.S.A.
ZIP: 02110-2804
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
COMPUTER: IBM PS/2 Model 502 or 55SX
OPERATING SYSTEM: MS-DOS (Version 5.0)
SOFTWARE: WordPerfect (Version 5.1)
CURRENT APPLICATION DATA:
FILING DATE:
    | REGISTRATION NUMBER: 30,162 | REFERENCE/DOCKET NUMBER: 00246/168001 | TELECOMMUNICATION INFORMATION: | TELEPHONE: (617) 542-5070 | TELEPHONE: (617) 542-8906 | TELEFAX: (617) 542-8906 | INFORMATION FOR SEQ ID NO: 97: LENGTH: 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/077,255
FILING DATE: June 15, 1993
APPLICATION NUMBER: 07/925,460
FILING DATE: August 11, 1992
ATTORNEY/AGENT INFORMATION:
NAME: Clark, Paul T.
REGISTRATION NUMBER: 30,162
REGISTRATION NUMBER: 30,162
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 542-5070
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 108, Application US/08488379
Patent No. 5880103
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Richardson
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    E: Fish & Richardso
225 Franklin Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEX: 200154
INFORMATION FOR SEQ ID NO: 108:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity 100.00
The 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (617) 542-8906
                                                                                                                                                                                                                     amino acid
                                                                                                                                                                                                                                                                  ; TOPOLOGY: linear
US-08-488-379-97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; TOPOLOGY: linear
US-08-488-379-108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STREET: 225 F. T. T. T. Boston
                                                                                                                                                                                                                     TYPE: amino
STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STRANDEDNESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 127
US-08-488-379-108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEFAX:
                                                                                                                                                                                                                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match

44.4%; Score 4; DB 1; Length 17;
Best Local Similarity 100.0%; Pred. No. 2e+02;
Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-08-488-379-97

Sequence 97, Application US/08488379

Sequence 97, Application US/08488379

Patent No. S880103

GENERAL INFORMATION:
APPLICANT: Roman M. Chicz
APPLICANT: Roman M. Chicz
APPLICANT: Dario A. A. Vignali
APPLICANT: Dario A. A. Vignali
APPLICANT: Lawrence J. Stern
APPLICANT: STERE I. Stern
APPLICANT: STERMIN STERMIN STREET:
ADDRESSEE: PISH & Richardson
STREET: 225 Franklin Street
                                                                                                                FILING DATE:
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/077,255
FILING DATE: June 15, 1993
APPLICATION NUMBER: 07/925,460
FILING DATE: August 11, 1992
ATTORNEY AGENT INFORMATION:
NAME: Clark, Paul T.
REGISTRATION NUMBER: 30,162
REFERENCE/DOCKET NUMBER: 30,162
REFERENCE/DOCKET NUMBER: 00246/168001
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 542-5070
TELEPHONE: (617) 542-5070
COMPUTER: IBM PS/2 Model 502 or 558X OPERATING SYSTEM: MS-DOS (Version 5.0) SOFTWARE: WordPerfect (Version 5.1) CURRENT APPLICATION DATA: APPLICATION NUMBER: US/08/480,190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPOTER READBLE FORM:
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
COMPUTER: 1BM PS/2 Model 50Z or 55SX
COMPUTER: 1BM PS/2 Model 50Z or 55SX
OFTWARE: WordPerfect (Version 5.0)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/488,379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FILING DATE:
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/077,255
FILING DATE: June 15, 1993
APPLICATION NUMBER: 07/925,460
AFILING DATE: AMGUST 11, 1992
ATTORNEY/AGENT INFORMATION:
NAME: Clark, Paul T.
                                                                                                                                                                                                                                                                                                                                                                                                                                        TELEX: 200154
INFORMATION FOR SEQ ID NO: 108:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ADDALL 222 CITY: BOSTON STATE: MASSACHUSELTS COUNTRY: U.S.A. 77P: 02110-2804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: amino acid
STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ; TOPOLOGY: linear
US-08-480-190-108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                    Score 4; DB 2; Length 1,;
Pred. No. 2e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 44.4%; Score 4; DB 2; Length 17; Best Local Similarity 100.0%; Pred. No. 2e+02; Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUREY: US
ZIP: 02110-2804
COMPUTER: READABLE FORM:
MEDLIUM TYPE: Diskette
COMPUTER: IBM COMPATIBLE
COMPUTER: IBM COMPATIBLE
COMPUTER: TBM COMPATIBLE
COMPUTER: TBM COMPATIBLE
COMPUTER: TBM COMPATIBLE
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/475,399A
FILING DATE: US-UN-1995
FILING DATE: 11-JUN-1995
APPLICATION NUMBER: 08/077,255
FILING DATE: 11-JUN-1993
APPLICATION NUMBER: 07/925,460
FILING DATE: 11-AUG-1993
APPLICATION THERES: TS-UN-1993
APPLICATION THERES
TS-UN-1995
ATTORNEY APPLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Chicz, Roman M.
APPLICANT: Vignali, Dario A.A.
APPLICANT: Hedley, Mary L.
APPLICANT: Stern, Lawrence J.
APPLICANT: Strominger, Jack L.
TITLE OF INVENTION: IMMUNOMODULATORY PEPTIDES
                                                                                                              44.4%; Scor.
100.0%; Pred. No. ...
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ADDRESSEE: Fish & Richardson, P.C. STREET: 225 Franklin Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; Sequence 97, Application US/08475399A; Patent No. 6509033; GENERAL INFORMATION: APPLICANT: Urban, Robert G. APPLICANT: Chicz, Roman M. APPLICANT: Vignali, Dario A.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; Sequence 108, Application US/08475399A ; Patent No. 6509033
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME: Fraser, Janis K.
REGISTRATION NUMBER: 34,819
REFRENCE/DOCKET NUMBER: 0024
TELECOMMUNICATION INFORMATION:
TELEPHONE: 617/542-507
TELEFAX: 617/542-890
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LENGTH: 17 amino acide
TYPE: amino acid
TOPOLOGY: linear
                                                                                                                              Query Match
Best Local Similarity 100.
Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEX: 200154
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                          ; ORGANISM: Murinae gen. 8p.
US-09-214-095D-65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CORRESPONDENCE ADDRESS:
ADDRESSEE: Fish & Ri
                                                                                                                                                                                                                                                                                                              DTFY 11
                                                                                                                                                                                                                                                             4 DTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Boston
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 131
US-08-475-399A-108
                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-08-475-399A-97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-08-475-399A-97
                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠે
                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                    Gaps
                                                                                                    ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                44.4%; Score 4; DB 1; Length 17;
100.0%; Pred. No. 2e+02;
Live 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 1; Length 17;
5. 2e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-214-095D-65

Sequence 65, Application US/09214095D

Patent No. 6280987

GENERAL INFORMATION:

APPLICANT: Landry, Donald

TILE OF INVENTION: ANTI-COCAINE CATALYTIC ANTIBODY

PILE REFERENCE: 51400-A-PCT-US

CURRENT APPLICATION NUMBER: US/09/214,095D

CURRENT FILING DATE: 199-07-19

NUMBER OF SOLID NOS: 121

SOFTWARE: Patentin version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/672,345C
FILING DATE: 24-JUN-1996
CLASSIFICATION: 435
ATTONERY/AGENT INFORMATION:
NAME: White, John P.
REGISTRATION NUMBER: 28,678
REGISTRATION NUMBER: 0575/51400
TELEPROMONICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                     Sequence 65, Application US/08672345C
Patent No. 5948658
GENERAL INPORMATION:
APPLICANT: Landry Donald, W.
TITLE OF INVENTION: ANTI-COCAINE CATALYTIC ANTIBODY
NUMBER OF SEQUENCES: 108
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
44.4%; Score 4; DB 1
Best Local Similarity 100.0%; Pred. No. 2e4
Matches 4; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ADDRESSER: Cooper and Dunham LLP STREET: 1185 Avenue of the Americas CITY: New York
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ZIP: 10036
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPPRATING SYSTEM: PC-DOS/MS-DOS
Query Match
Best Local Similarity 100...
4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 17 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TOPOLOGY: linear MOLECULE TYPE: peptide US-08-672-345C-65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: amino acid
STRANDEDNESS: si
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8 DTFY 11
                                                                                                                                                                                                                                                                                                                                              US-08-672-345C-65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQ ID NO 65
LENGTH: 17
TYPE: PRT
                                                                                                                                                            ઠે
                                                                                                                                                                                                                   요
```

```
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
COMPUTER: 1BM FS/2 Model 56Z or 55SX
OPERATING SYSTEM: MS-DOS (Version 5.0)
SOFTWARE: WordPerfect (Version 5.1)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/077,255A
FILING DATE: Unne 15, 1993
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/925,460
FILING DATE: August 11, 1992
ATTORNEY/AGENT INFORMATION:
NAME: Clark, Paul T.
REGISTRATION NUMBER: 30,162
RELEPOMMINICATION NUMBER: 30,162
RELEPOMMINICATION NUMBER: MATERIAL NUMBER: METER NUMBER: MET
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATOTACSASET: TABLE A LIGHTUSON
STREET: 225 Franklin Street
CITY: Boston
STATE: Massachusetts
COUNTRY: U.S.A.
ZIP: 02110-2804
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
COMPUTER: IBM PS/2 Model 50Z or 555X
OPERATING SYSTEM: MS-DOS (Version 5.0)
SOFTWARE: WATCHERICATION DATA:
APPLICATION NUMBER: US/08/077,255A
FILING DATE: June 15, 1993
CLASSIFTCATION NUMBER: 07/925,460
FILING DATE: June 15, 1993
CLASSIFTCATION NUMBER: 07/925,460
FILING DATE: AUGUST 11, 1992
ATTORNEY/AGENT INFORMATION:
NAME: Clark, Paul T.
REGISTRATION NUMBER: 30,162
REGISTRATION NUMBER: 30,162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 108, Application US/08077255A Patent No. 6696061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 E: Fish & Richardson
225 Franklin Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELEFAX: (617) 542-8906
TELEX: 200154
INFORMATION FOR SEQ ID NO: 97:
SEQUENCE CHARACTERISTICS:
LENGTH: 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity 100.
اتام 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; TOPOLOGY: linear
US-08-077-255A-97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STRANDEDNESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-08-077-255A-108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          h similarity 100.0%; Pred. No. 2e+02; 4; Conservative 0; Mismatches 0; Indels
GENERAL INFORMATION:
APPLICANT: Urban, Robert G.
APPLICANT: Chicz, Roman M.
APPLICANT: Chicz, Roman M.
APPLICANT: Hedley, Mary L.
APPLICANT: Stern, Lawrence J.
APPLICANT: Stern, Lawrence J.
ITILE OF INVENTION: IMMUNOMODULATORY PEPTIDES
NUMBER OF SEQUENCES: 276
NUMBER OF SEQUENCES: 276
NUMBER OF SEQUENCES: 276
NUMBER OF SEQUENCES: 276
SCRRESPONDENCE: ABBRES: ABBRES: ABBRESSE: Rish & Richardson, P.C.
STREET: 225 Franklin Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 97, Application US/08077255A

Patent No. 6696061

GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Roman M. Chicz
APPLICANT: Dario A. A. Vignali
APPLICANT: Dario A. A. Vignali
APPLICANT: Lawrence J. Stern
APPLICANT: Lawrence J. Stern
APPLICANT: Lawrence J. Stern
APPLICANT: Jack L. Strominger
TITLE OF INVENTION: INMUNOMODULATORY PEPTIDES
NUMBER OF SEQUENCES: 274
CORRESPONDENCE ADDRESS:
ADDRESSEE: Fish & Richardson
STREET: 225 Franklin Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FUAL..

MEDIUM TYPE: Diskette COMPUTER. BM COMPATIBLE OPERATING SYSTEM: Windows95
SOFTWARE: FESTESCE for Windows Version 2.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/475,399A
FILING DATE: 0'-JUN-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/077,255
FILING DATE: 15-JUN-1993
APPLICATION NUMBER: 07/925,460
FILING DATE: 11-AUG-1992
APPLICATION NUMBER: 07/925,460
FILING DATE: 11-AUG-1992
ATTORIEY/AGENT INFORMATION:
REGISTRATION NUMBER: 34,819
REFERENCE/DOCKET NUMBER: 0246/168003
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELERAK: 617/542-890
TELERAK: 200154
INFORMATION FOR SEQ ID NO: 108:
SEQUENCE CHARACTERISTICS:
LENGTH: 17 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STREET: 225 Franklin S
CITY: Boston
STATE: Massachusetts
COUNTRY: U.S.A.
ZIP: 02110-2804
                                                                                                                                                                                                                                                                                                                                                                                                               CITY: Boston
STATE: MA
COUNTRY: US
ZIF: 02110-2804
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: amino acid
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
Matches 4; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2 VDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-08-475-399A-108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-08-077-255A-97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
```

```
Gaps
                                                      ö
44.4%; Score 4; DB 2; Length 17;
100.0%; Pred. No. 2e+02;
rative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                       GENERAL INFORMATION:
APPLICANT: Robert G. Urban
APPLICANT: Roman M. Chicz
APPLICANT: Dario A. A. Vignali
APPLICANT: Dary L. Hedley
APPLICANT: Lawrence J. Stern
APPLICANT: Lawrence J. Strominger
ITILE OF INVENTION: IMMONOMOULATORY PRPTIDES
NUMBER OF SEQUENCES: 274
CORRESPONDENCE ADDRESS:
```

```
0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  44.4%; Score 4; DB 5; Length 17;
100.0%; Pred. No. 2e+02;
ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Robert G. Urban
APPLICANT: Roman M. Chicz
APPLICANT: Roman M. Chicz
APPLICANT: Bario A. A. Vignali
APPLICANT: Mary L. Hedley
APPLICANT: Lawrence J. Stern
APPLICANT: Lawrence J. Stern
APPLICANT: Jack L. Strominger
APPLICANT: Jack L. Strominger
APPLICANT: Jack L. Strominger
APPLICANT: Jack P. Strominger
APPLICANT: Jack R. Strominger
CORRESPONDENS: 273
CORRESPONDENSES:
ADDRESSEE: Pish & Richardson
STREET: 225 Franklin Street
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
COMPUTER: 1BM F82, Model 502 or 55SX
OPERATING SYSTEM: MS-DOS (Version 5.0)
SOFTWARE: WordPerfect (Version 5.1)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US93/07545
FILING DATE: 19930811
CLAASIFICATION DATA:
APPLICATION NUMBER: 07/925,460
FILING DATE: AUGUST 07/925,460
FILING DATE: AUGUST 11, 1992
ATTORNEY AGENT INFORMATION:
NAME: Clark, Paul T.
RESISTRATION NUMBER: 30,162
REFERENCE/DOCKET NUMBER: 00246/168001
TELECOMMUNICATION INFORMATION:
TELECOMMUNICAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CITY: Boston
STATE: Massachusetts
COUNTRY: U.S.A.
ZIP: 02110-2804
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
COMPUTER: IBM PS/2 Model 50Z or 55SX
OPERATING SYSTEM: MS-DOS (Version 5.0)
SOFTWARE: WordPerfect (Version 5.1)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US93/07545
FILING DATE: 19930811
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME: Clark, Paul T.
REGISTRATION VINBER: 30,162
REFERENCE/DOCKET NUMBER: 00246/168001
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PCT-US93-07545-108; Sequence 108, Application PC/TUS9307545; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CLASSIPTCATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/925,460
FILING DATE: AUGUST 11, 1992
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LECOMPLES (617) 512 TELEPHONE: (617) 542-8906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity 100.v
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELEX: 200154
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRANDEDNESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PCT-US93-07545-97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                44.4%; Score 4; DB 2; Length 17;
100.0%; Pred. No. 2e+02;
cive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      44.4%; Score 4; DB 2; Length 17;
100.0%; Pred. No. 2e+02;
tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-940-727B-65

Sequence 65, Application US/09940727B

Patent No. 6913917

GENERAL INFORMATION:

APPLICANT: Landry, Donald W

TITLE OF INVENTION:

CURRENT APPLICATION NUMBER: US/09/940,727B

CURRENT FILING DATE: 2002-09-04

PRIOR PILING DATE: 1998-12-28

PRIOR RPLICATION NUMBER: PG/10957

PRIOR RPLICATION NUMBER: PG/1097/10965

PRIOR PILING DATE: 1997-06-25

PRIOR FILING DATE: 1997-06-25

PRIOR FILING DATE: 1997-06-25

NUMBER OF SEQ ID NOS: 121

SOFTWARE: PatentIn version 3.1

SEQ ID NO 65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Robert G. Urban
APPLICANT: Roman M. Chicz
APPLICANT: Borio A. A. Vignali
APPLICANT: Dario A. A. Vignali
APPLICANT: Dawrence J. Stern
APPLICANT: Lawrence J. Stern
APPLICANT: Jack L. Strominger
TITLE OF INVENTON: IMMUNOMODULATORY PEPTIDES
NUMBER OF SEQUENCES: 273
CORRESPONDENCE ADDRESS:
ADDRESSEE: Fish & Richardson
STREET: 225 Franklin Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 97, Application PC/TUS9307545 GENERAL INFORMATION:
                                                                                             TELEX: 200154
INFORMATION FOR SEQ ID NO: 108:
SEQUENCE CHARACTERISTICS:
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 542-5070
TELEFAX: (617) 542-8906
                                                                                                                                                                                                                                                                                                                                                                                                                               Best Local Similarity 100.
Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity 100.
Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STREET: 225 Franklin S
CITY: Boston
STATE: Massachusetts
COUNTRY: U.S.A.
ZIP: 02110-2804
                                                                                                                                                                                                                                 TYPE: amino acid
STRANDEDNESS:
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8 DTFY 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: PRT
ORGANISM: mouse
                                                                                                                                                                                                                                                                                                                                  US-08-077-255A-108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-940-727B-65
                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
```

```
Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 44.4%; Score 4; DB 1; Length 18; Best Local Similarity 100.0%; Pred. No. 2.1e+02; Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                       GENERAL INFORMATION:
APPLICANT: Robert G. Urban
APPLICANT: Roman M. Chicz
APPLICANT: Bario A. A. Vignali
APPLICANT: Mary L. Hedley
APPLICANT: Lawrence J. Stern
APPLICANT: Lawrence J. Stern
APPLICANT: Jack L. Strominger
TITLE OF INVENTION: IMMUNOMODULATORY PEPTIDES
NUMBER OF SEQUENCES: 274
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COUNTRY: U.S.A.
ZIP: 02110-2804
COMPUTER READBLE FORM:
COMPUTER: 3.5" Diskette, 1.44 Mb
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
COMPUTER: IBM PS/2 Model 50Z or 55SX
OPERATING SYSTEM: MS-DOS (Version 5.0)
SOFTWARE: WordPerfect (Version 5.1)
CURRENT APPLICATION DATA: US/08/488,379
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/07,255
FILING DATE: June 15, 1993
APPLICATION NUMBER: 07/925,460
FILING DATE: August 11, 1992
ATTORNEY/AGENT INFORMATION:
NAME: Clark, Paul T.
REGISTRATION NUMBER: 30,162
REGISTRATION NUMBER: 30,162
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 542-5070
TELEPROX: (617) 542-8906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 106, Application US/08475399A
Patent No. 6509033
GENERAL INFORMATION:
APPLICANT: Urban, Robert G.
APPLICANT: Chicz, Roman M.
APPLICANT: Vignali, Dario A.A.
                                                                                                                                                                    ; Sequence 106, Application US/08488379
; Patent No. 5880103
                                                                                                                                                                                                                                                                                                                                                                                                                              E: Fish & Richardson
225 Franklin Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEX: 200154
INFORMATION FOR SEQ ID NO: 106:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STATE: Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      linear
                        VDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Boston
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2 VDDT 5
                                                             1 VDDT 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STRANDEDNESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 139
US-08-475-399A-106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ;
US-08-488-379-106
                                                                                                                             RESULT 138
US-08-488-379-106
                                                                                                                                                                                                                                                                                                                                                                                                                                ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LENGTH:
                                                             셤
                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      o;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      .
0
                                                                                                                                                                                                                               44.4%; Score 4; DB 5; Length 17; 100.0%; Pred. No. 2e+02; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match

44.4%; Score 4; DB 1; Length 18;
Best Local Similarity 100.0%; Pred. No. 2.1e+02;
Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 106, Application US/08480190
Patent No. 5827516
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Robert G. Urban
APPLICANT: Roman M. Chicz
APPLICANT: Dario A. A. Vignali
APPLICANT: Lawrence J. Stern
APPLICANT: Lawrence J. Stern
APPLICANT: Jack L. Strominger
TITLE OF INVENTION: IMMUNOMODULATORY PEPTIDES
NUMBER OF SEQUENCES: 274
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/077,255
FILING DATE: June 15, 1993
APPLICATION NUMBER: 07/925,460
FILING DATE: August 11, 1992
ATTORNEY/AGENT INFORMATION:
NAME: Clark, Paul T.
REGISTRATION NUMBER: 30,162
REFERENCE/DOCKET NUMBER: 00246/168001
TELECOMMUNICATION: NUMBER: 00246/168001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
COMPUTER: 1BM PS/2 Model 50Z or 55SX
OPERALING SYSTEM: MS-DOS (Version 5.0)
SOFTWARE: WordPerfect (Version 5.1)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/480,190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADDRESSEE: Fish & Richardson
STREET: 225 Franklin Street
                 TELEFAX: (617) 542-8906
TELEX: 200154
INFORMATION FOR SEQ ID NO: 108:
SEQUENCE CHARACTERISTICS:
LENGTH: 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IELEX: 200154
INFORMATION FOR SEQ ID NO: 106: SEQUENCE CHARACTERISTICS:
(617) 542-5070
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (617) 542-5070
(617) 542-8906
                                                                                                                                                                                                            Query Match
Best Local Similarity 100.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CITY: Boston
STATE: Massachusetts
COUNTRY: U.S.A.
ZIP: 02110-2804
                                                                                                                        TYPE: amino acid STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: amino acid
STRANDEDNESS:
                                                                                                                                                                    ; TOPOLOGY: linear
PCT-US93-07545-108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  linear
                                                                                                                                                                                                                                                                                                                     2 VDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEPHONE:
TELEFAX: (6:
TELEX: 2001:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FILING DATE:
TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; TOPOLOGY:
US-08-480-190-106
                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 137
US-08-480-190-106
                                                                                                                                                                                                                                                                                                                     δ
```

```
Query Match

44.4%; Score 4; DB 2; Length 18;
Best Local Similarity 100.0%; Pred. No. 2.1e+02;
Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       44.4%; Score 4; DB 2; Length 18; 100.0%; Pred. No. 2.10+02; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0; Indels
                            CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/077,255A
FILING DATE: June 15, 1993
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/925,460
FILING DATE: AUGUST 11, 1992
ATTORNEY/AGENT INFORMATION:
REGISTRATION NUMBER: 30,162
REGISTRATION NUMBER: 30,162
REFERENCE/DOCKET NUMBER: 00246/168001
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELEFRANE: (617) 542-5070
TELEFRANE: (617) 542-8906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORGANISM: Neisseria meningitidis (group B)
               WordPerfect (Version 5.1)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; Sequence 4, Application US/09612925H
; Patent No. 6921809
                                                                                                                                                                                                                                                                                                                   TELEX: 200154
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LERNGTH: 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity 100.
Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; TOPOLOGY: linear
US-08-077-255A-106
                                                                                                                                                                                                                                                                                                                                                                                                                 amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9 VDDT 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2 VDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2 VDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                 STRANDEDNESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-612-925H-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     44.4%; Score 4; DB 2; Length 18; 100.0%; Pred. No. 2.1e+02; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MESULT 140

US-08-077-255A-106

Sequence 106, Application US/08077255A

Patent No. 669601

GENERAL INFORMATION:
APPLICANT: Robert G. Urban
APPLICANT: Robert G. Urban
APPLICANT: Mary L. Hedley
APPLICANT: Learence J. Stern
TITLE OF INVENTION: IMMONOMODULATORY PEPTIDES
NUMBER OF SEQUENCES: 274
CORRESPONDENCE ADDRESS:
ADDRESSEE: Pish & Richardson
STREET: 225 Frank'': Charles
APPLICANT: Hedley, Mary L.
APPLICANT: Stern, Lawrence J.
APPLICANT: Stroninger, Jack L.
TITLE OF INVERTION: IMMUNOMODULATORY PEPTIDES
NUMBER OF SEQUENCES: 276
CORRESPONDENCE ADDRESS:
ADDRESSEE: Fish & Richardson, P.C.
STREET: 225 Franklin Street
CITY: Boston
                                                                                                                                                                                                        COMPUTEY: US
ZIP: 02110-2804
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
OPERATING SYSTEM: Windows95
SOFTWARE: FastSEQ for Windows Version 2.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/475,399A
FILING APPLICATION DATA:
APPLICATION NUMBER: 08/077,255
FILING DATE: 15-JUN-1993
APPLICATION NUMBER: 08/077,255
FILING DATE: 11-AUG-1993
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CITY: Boston
STATE: Massachusetts
COUNTRY: U.S.A.
ZIP: 02110-2804
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5° Diskette, 1.44 Mb
COMPUTER: IMP FS/2 Model 50Z or 55SX
OPERATING SYSTEM: MS-DOS (Version 5.0)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    00246/168003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME: Fraser, Janis K.
REGISTRATION NUMBER: 34,819
REFERENCE/DOCKET NUMBER: 00246
TELECOMMULATION INFORMATION:
TELEPHONE: 617/542-507
TELERAX: 617/542-890
TELEX: 200154
INFORMATION FOR SEQ ID NO: 106: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity 100.0
Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  amino acid
OGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-08-475-399A-106
                                                                                                                                                                                           STATE: MA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠે
```

Gaps

```
GENERAL INFORMATION:
APPLICANT: Cano, Carlos Antonio Durante
APPLICANT: Cano, Carlos Antonio Durante
APPLICANT: Nueto, Enrique Gerardo Guillen
APPLICANT: Acceta, Anabel Alvarez
APPLICANT: Monoz, Luis Emilio Carpio
APPLICANT: Rodriguez, Carpio Gomez
APPLICANT: Rodriguez, Carnen Elena Gomez
APPLICANT: Rodriguez, Cansuelo Nazabal
APPLICANT: Rodriguez, Recardo de la Caridad Siva
APPLICANT: Galvez, Consuelo Nazabal
APPLICANT: Galvez, Consuelo Nazabal
APPLICANT: Galvez, Consuelo Nazabal
APPLICANT: Dunn, Alejandro Miguel Martin
ITILE OF INVENTION: Expression System of Heterologous Antigens as Fusion Proteins
FILE REFERENCE: LEXA P-13DIV2
CURRENT APPLICATION NUMBER: US/09/612,925H
CURRENT APPLICATION NUMBER: US/09/612,925H
CURRENT PILING DATE: 1997-001-17
NUMBER OF SEQ ID NOS: 29
SEQ ID NO SEQ ID NOS: 29
LENGYHH: 18
LENGYHH: 18
LENGYHH: 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ;
0
```

```
Query Match 44.4%; Score 4; DB 1; Length 19; Best Local Similarity 100.0%; Pred. No. 2.2e+02; Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GENERAL INFORMATION:
APPLICANT: Robert G. Urban
APPLICANT: Robert G. Urban
APPLICANT: Bario A. A. Vignali
APPLICANT: Mary L. Hedley
APPLICANT: Lawrence J. Stern
APPLICANT: Jack L. Strominger
TITLE OF INVENTION: IMMUNOMODULATORY PEPTIDES
NUMBER OF SEQUENCES: 274
                                           COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
COMPUTER: IBM PS/2 Model 502 or 558X
OPERATING SYSTEM: MS-DOS (Version 5.0)
SOFTWARE: Wordberfect (Version 5.1)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/480,190
FILING DATE: US/08/480,190
FILING DATE: June 15, 1993
APPLICATION NUMBER: 07/925,460
FILING DATE: June 15, 1993
APPLICATION NUMBER: 07/925,460
FILING DATE: AUGUST 11, 1992
ATTORNEY AGENT INFORMATION:
NAME: Clark, Paul T.
REGISTRATION NUMBER: 00246/168001
TELLEPHONE: (617) 542-5070
TELLEPHONE: (617) 542-5070
TELLEPHONE: (617) 542-6906
TELLEPHONE: (617) 542-6906
TELLEPHONE: SEQUENCE CHARACTERISTICS:
SUNDENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS:
ADDRESSEE: Fish & Richardson
STREET: 225 Franklin Street
CITY: Boston
STRATE: Massachusetts
COUNTRY: U.S.A.
ZIP: 02110-2804
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
COMPUTER: IBM PS/2 Model 502 or 55SX
OPERATING SYSTEM: MS-DOS (Version 5.0)
SOFTWARE: WordPerfect (Version 5.1)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/480,190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; Sequence 105, Application US/08480190
; Patent No. 5827516
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FILING DATE:
CLASSIFICATION: 424
PRICA APPLICATION DATA:
APPLICATION NUMBER: 08/077,255
Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: amino acid
STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ; TOPOLOGY: linear
US-08-480-190-94
                       RY: U.S.A.
02110-2804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2 VDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 144
US-08-480-190-105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match

44.4%; Score 4; DB 5; Length 18;
Best Local Similarity 100.0%; Pred. No. 2.1e+02;
Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 143
US-08-480-190-94
i Sequence 94, Application US/08480190
i Patent No. 5827516
i GENERAL INFORMATION:
APPLICANT: Robert G. Urban
APPLICANT: Roman M. Chicz
APPLICANT: Bario A. A. Vignali
APPLICANT: Lawrence J. Strominger
APPLICANT: Lawrence J. Strominger
TITILE OF INVENTION: IMMUNOMODULATORY PEPTIDES
INTERESEE: Pish & Richardson
STREET: 225 Franklin Street
                                                                                                           APPLICANT: Roman M. Chica
APPLICANT: Bario A. A. Vignali
APPLICANT: Mary L. Hedley
APPLICANT: Lawrence J. Stern
APPLICANT: Jack L. Strominger
TITLE OF INVENTION: IMMUNOMOULATORY PEPTIDES
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
COMPUTER: TABM F8/2 Model 502 or 555X
OPERATING SYSTEM: MS-DOS (Version 5.0)
SOFTWARE: WordPerfect (Version 5.1)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US93/07545
FILING DATE: 19930811
CLASSIFICATION:
PIOR APPLICATION DATA:
APPLICATION NUMBER: 07/925,460
FILING DATE: August 11, 1992
ATTORNEY/AGATI INFORMATION:
NAME: Clark, Paul T.
REGISTRATION NUMBER: 30,162
RELECOMMUNICATION INFORMATION:
TELEFRAN: (617) 542-5070
TELEFRAN: 200164
               PCT-US93-07545-106; Sequence 106, Application PC/TUS9307545; Sequence 106, Application PC/TUS9307545; APPLICANT: Robert G. Urban
                                                                                                                                                                                                                                                                                                                 ADDRESSEE: Fish & Richardson
STREET: 225 Franklin Street
CITY: Boston
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELEX: 200154
INFORMATION FOR SEQ ID NO: 106:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                 CITY: Boston
STATE: Massachusetts
COUNTRY: U.S.A.
ZIP: 02110-2804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: amino acid STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; TOPOLOGY: linear
PCT-US93-07545-106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2 VDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STREET: 225
CITY: Boston
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠ
```

Gaps

; 0

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gapa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                             44.4%; Score 4; DB 1; Length 19; 100.0%; Pred. No. 2.2e+02; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
44.4%; Score 4; DB 1; Length 19;
Best Local Similarity 100.0%; Pred. No. 2.2e+02;
Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Robert G. Urban
APPLICANT: Robert G. Viban
APPLICANT: Bario A. A. Vignali
APPLICANT: Mary L. Hedley
APPLICANT: Lawrence J. Stern
APPLICANT: Jack L. Strominger
TITLE OF INVENTION: IMMUNOMODULATORY PEPTIDES
NUMBER OF SEQUENCES: 274
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COUNTRY: massacnusecus
COUNTRY: U.S.A.
ZIP: 02110-2804
COMPUTER READBLE FORM:
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
COMPUTER: IBM PS/2 Model 50Z or 55SX
OPERATING SYSTEM: MS-DOS (Version 5.0)
SOFTWARE: WordPerfect (Version 5.1)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/488,379
FILING DATE:
CLASSIFICATION DATA:
APPLICATION NUMBER: 08/07,255
FILING DATE: June 15, 1993
APPLICATION NUMBER: 07/925,460
FILING DATE: August 11, 1992
ATTORNEY/AGENT INFORMATION:
NAME: Clark, Paul T.
REGISTRATION NUMBER: 30,162
REFERENCE/DOCKET NUMBER: 30,162
REFERENCE/DOCKET NUMBER: 30,162
REFERENCE/DOCKET NUMBER: 00246/168001
TELLEPAX: (617) 542-5070
TELLEPAX: (617) 542-5070
                                                                                                                                                                                                                                                                                                                                                                                                                      ; Sequence 105, Application US/08488379; Patent No. 5880103; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ADDRESSEE: Fish & Richardson
STREET: 225 Franklin Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEX: 200154
INFORMATION FOR SEQ ID NO: 105:
SEQUENCE CHARACTERISTICS:
LENGTH: 19
                                                                                                                      Query Match
Best Local Similarity 100.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Massachusetts
                                  ; STRANDEDNESS;
; TOPOLOGY: linear
US-08-488-379-94
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STREET: 225 Fr
CITY: Boston
STATE: Massach
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-08-488-379-105
                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           44.4%; Score 4; DB 1; Length 19; 100.0%; Pred. No. 2.2e+02; Live 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 94, Application US/08488379
Patent No. 5880103
GENERAL INFORMATION:
APPLICANT: Robert G. Urban
APPLICANT: Roman M. Chicz
APPLICANT: Dario A. A. Vignali
APPLICANT: Mary L. Hedley
APPLICANT: Lawrence J. Stern
APPLICANT: Lawrence J. Stern
TITLE OF INVENTION: IMMUNOMODULATORY PEPTIDES
NUMBER OF SEQUENCES: 274
FILING DATE: June 15, 1993
APPLICATION NUMBER: 07/925,460
FILING DATE: AQUUST 11, 1992
FILING DATE: AQUUST 11, 1992
NAME: Clark, Paul T.
REGIGTRATION NUMBER: 30,162
REFERENCE/DOCKET NUMBER: 30,162
TELECOMMUNICATION INFORMATION:
TELEPAK: (617) 542-5070
TELEFAK: 200154
INFORMATION FOR SEQ ID NO: 105:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COUNTRY: U.S.A.
ZIP: 02110-2804
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
COMPUTER: IBM PS/2 Model 50Z or 55SX
OPERATING SYSTEM: MS-DOS (Version 5.0)
SOFTWARE: WordPerfect (Version 5.1)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/488,379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PILING DATE: US/UB/488,3/9
PILING DATE: CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/077,255
FILING DATE: June 15, 1993
APPLICATION NUMBER: 07/925,460
FILING DATE: June 11, 1992
ATTORNEY/AGENT INPORMATION:
NAME: Clark, Paul T.
REGISTRATION NUMBER: 30,162
REFERENCE/DOCKET NUMBER: 00246/168001
TELEPHONE: (617) 542-8906
TELEPHONE: (617) 542-8906
TELEPHONE: (617) 542-8906
TELEPHONE: (617) 542-8906
TELEPHONE: CLOSSI INPORMATION: TELEPHONE: (617) 542-8906
TELEPHONE: CLOSSI INPORMATION: TELEPHONE: (617) 542-8906
TELEPHONE: CLOSSI INPORMATION: TELEPHONE: (617) 542-8906
TELEPHONE: CLOSSI IND: 94: LENGTH: 19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CORRESPONDENCE ADDRESS:
ADDRESSEE: Fish & Richardson
STREET: 225 Franklin Street
CITY: Boston
STATE: Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity 100.
Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                               TYPE: amino acid
STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                 ; TOPOLOGY: linear
US-08-480-190-105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 145
US-08-488-379-94
```

ઠે 셤

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             44.4%; Score 4; DB 2; Length 19; 100.0%; Pred. No. 2.2e+02; Partive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GENERAL INFORMATION:
APPLICANT: Robert G. Urban
APPLICANT: Roman M. Chicz
APPLICANT: Dario A. A. Vignali
APPLICANT: Davrence J. Stern
APPLICANT: Lawrence J. Stern
APPLICANT: Jack L. Strominger
TITLE OF INVENTION: IMMUNOMODULATORY PEPTIDES
NUMBER OF SEQUENCES: 274
                                            COMPUREY: US

ZIP: 02110-2804

COMPUTER TREADABLE FORM:
MEDIUM TYBE: Diskette
COMPUTER: IBM COMPATIBLE
OPERATING SYSTEM: Windows95
SOFTWARE: FastSEQ for Windows Version 2.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/475,399A
FILING DATE: US-UN-1995
PRIONE APPLICATION DATA:
APPLICATION NUMBER: 08/077,255
FILING DATE: 11-AUG-1993
APPLICATION NUMBER: 07/925,460
FILING DATE: 11-AUG-1992
ATTORNEY/AGENT INPORMATION:
NAME: Fraser, Janis K.
REGISTRATION NUMBER: 34,819
REFERENCE/DOCKET NUMBER: 34,819
REFERENCE/DOCKET NUMBER: 34,819
TELEFHONE: 617/542-507
TELEFRONE: 617/542-690
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CUNTRY: U.S.A.

ZIATE: Massachusetts
COUNTRY: U.S.A.
ZII0-2804
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
COMPUTER: IRM PS/2 Model 502 or 558X
OOFEWATING SYSTEM: MS-DOS (Version 5.0)
SOFTWARE: WordPerfect (Version 5.1)
CURENT APPLICATION DATA:
APPLICATION NUMBER: US/08/077,255A
FILING DATE: June 15, 1993
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
PRIOR APPLICATION DATA:
FILING DATE: AUGUST 11, 1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-08-077-255A-94; Sequence 94, Application US/08077255A; Patent No. 6696061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   E: Fish & Richardson
225 Franklin Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELEX: 200154
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 19 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity 100.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: amino acid
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STREET: 225 F
CITY: Boston
Boston
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2 VDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 VDDT 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-08-475-399A-105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 2; Length 19;
                    Sequence 94, Application US/08475399A
; Sequence 94, Application US/08475399A
; Patent No. 6509033
; GENERAL INFORMATION:
    APPLICANT: Urban, Robert G.
    APPLICANT: Officx, Roman M.
    APPLICANT: Hedley, Mary L.
    APPLICANT: Stern, Lawrence J.
    APPLICANT: Stern, Lawre
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Urban, Robert G.
APPLICANT: Urban, Robert G.
APPLICANT: Urban, Roman M.
APPLICANT: Chicz, Roman M.
APPLICANT: Hedley, Mary L.
APPLICANT: Stern, Lawrence J.
APPLICANT: Stern, Lawrence J.
APPLICANT: Strominger, Jack L.
APPLICANT: Street
STREET: 225 Franklin Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STATE: MACOUNTRY: US

COUNTRY: US

ZIP: 02110-2804

COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
OPERTING SYSTEM: Windows95
SOFTWARE: FastSEQ for Windows Version 2.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/475,399A
FILING DATE: 07-JUN 1995
FILING DATE: 15-JUN 1993
APPLICATION NUMBER: 07/925,460
FILING DATE: 11-AUG-1992
ATTORNEY, AGENT INFORMATION:
NAME: FYSAGET INFORMATION:
NAME: FYSAGET INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           44.4%; Score 4; DB 2
100.0%; Pred. No. 2.2
tive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NAME: Fraser, Janis K.
REGISTRATION NUMBER: 34,819
REFERENCE/DOCKET NUMBER: 00246/168003
TELECOMMUNICATION INFORMATION:
TELEPHONE: 617/542-507
TELEFRAX: 617/542-890
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 105, Application US/08475399A
Patent No. 6509033
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELEX: 200154
INFORMATION FOR SEQ 1D NO: 94:
SEQUENCE CHARACTERISTICS:
LENGTH: 19 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity 100.
Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: amino acid
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-08-475-399A-105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-08-475-399A-94
                        US-08-475-399A-94
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                       Query Match

44.4%; Score 4; DB 2; Length 19;
Best Local Similarity 100.0%; Pred. No. 2.2e+02;
Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 105 Application US/08077255A

Sequence 105 Application US/08077255A

Sequence 105 Application US/08077255A

Setent No. 66860A

GENERAL INFORMATION:
APPLICANT: Robert G. Urban
APPLICANT: Dario A. A. Vignali
APPLICANT: Dario A. A. Vignali
APPLICANT: Dario A. A. Vignali
APPLICANT: Jack L. Strominger
ITILE OF INVENTION: IMMUNOMODULATORY PEPTIDES
NUMBER OF SEQUENCES: 274
CORRESPONDENCE ADDRESS:
ADDRESSEE: Fish & Richardson
STREET: 225 Franklin Street
CITY: BOSCON
STREET: 3.5 Pishette, 1.44 Mb
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 Diskette, 1.44 Mb
COMPUTER: IBM PS/2 Model 502 or 558
COMPUTER: IBM PS/2 Model 50.
COMPUTER: June 15, 1993
CLASSIFICATION NUMBER: US/08/077,255A
FILING DATE: June 15, 1992
ATTORNEY/AGENT INFORMATION:
NAME: Clark, Paul T.
REGISTRATION NUMBER: 30.162
REFERENCE/DOCKET NUMBER: 00246/168001
TELERPHONE: (617) 542-5070
TELERAX: 200154
ATTORNEY/AGENT INFORMATION:
NAME: Clark, Paul T.
REGISTRATION NUMBER: 30,162
REFERENCE/DOCKET NUMBER: 00246/168001
TELEPHONE: (517) 542-5070
TELEPHONE: (617) 542-8906
TELEFA: (617) 542-8906
INFORMATION FOR SEQ ID NO: 94:
REGISTRATION FOR SEQ ID NO: 94:
LENGTH: 19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELEX: 200154
INFORMATION FOR SEQ ID NO: 105:
SEQUENCE CHARACTERISTICS:
LENGTH: mino acid
STRANDEDNESS:
                                                                                                                                                                                                                                               TYPE: amino acid STRANDEDNESS:
                                                                                                                                                                                                                                                                                          ; TOPOLOGY: linear
US-08-077-255A-94
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; TOPOLOGY: linear
US-08-077-255A-105
                                                                                                                                                                                                                                                                                                                                                                                                                                               2 VDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
```

```
      Query Match
      44.4%; Score 4; DB 2; Length 19;

      Best Local Similarity 100.0%; Pred. No. 2.2e+02;

      Matches 4; Conservative 0; Mismatches 0; Indels 0; Gaps

      Qy
      2 VDDT 5

      Db
      1 VDDT 4

      Search completed: May 17, 2006, 06:30:27

      Job time: 52 secs
```

This Page Blank (uspto)

```
neisseria m
neisseria m
neisseria g
thiomicrosp
                                                                                                                                                                                                                                                                                                                                                                                 oryza sativ
pseudomonas
arabidopsis
drosophila
drosophila
gibberella
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            lycopersico
solanum tub
psychrobact
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                psychrobact
clostridium
mamestra co
bacillus ce
bacillus an
human adeno
clostridium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              trypanosoma
rhodopseudo
bacillus li
bacillus cl
                                                                                                                                                                                                                     arabidopsis
arabidopsis
arabidopsis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              caenorhabdi
caenorhabdi
bacillus ce
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           bacillus ce
bacillus th
bacillus ce
bacillus an
bacillus an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    escherichia
gloeobacter
apis cerana
yersinia pe
                                                                                                                                                                                                                                                             arabidopsis
arabidopsis
                                                                                                                                                                                                                                                                                        bacillus ce
bacillus th
                                                                                                                                                                                                                                                                                                                   oryza sativ
arabidopsis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    entamoeba h
bacillus ce
                                                                     methylococc
marinobacte
                                                                                                                                                      hahella che
alkalilimni
                                                                                                                                                                                                          thermoactin
                                                                                                                                                                                                                                                                                                                                                                          escherichia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                asparagus o
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            bacillus ce
schistosoma
                                                                                                                            рвеифошопав
                                                                                                                                       pseudomonae
                                                                                                                                                                               syntrophoba
                                                                                                                                                                                             bacillus th
                                                                                                                                                                                                                                                                                                                                               lactobacill
                                                                                                                                                                                                                                                                                                                                                            perla margi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      neurospora
caenorhabdi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         enterococcu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      streptococc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 mycoplasma
bacillus ce
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 pyrococcus
bacillus ce
  0991vc0
0956wbs
0966wbs
0960wbs
TRPB_NEIMB
TRPB_NEIMB
TRPB_NEIMB
G05F9W3 NEIGI
G04F9W3 NEIGI
G0404P3 METRCA
G0404P3 METRCA
G0404P3 METRCA
G0604P3 METRCA
G0604F PSEUA
G0504W1 PSEUA
G0504W1 PSEUA
G0504W1 PSEUA
G0504W1 PSEUA
G05051 THEVU
G05051 THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q2WLYS_CLOBE
Q4DPBQ_TRYCR
Q4DPBQ_TRYCR
Q62J0AQ_RHOPA
Q62J18_BACLD
G5WEA4_BACSK
Q4XCY7_PLACH
Q4XCY7_PLACH
G63BU1_BACCZ
G64JBU1_BACCZ
G64JBU1_BACCZ
G61DZ1_BACCR
Q81DZ1_BACCR
Q81DZ1_BACCR
Q81DZ1_BACCR
Q81DZ3_BACCR
Q61U3J2_BACCR
Q61U3J2_BACCR
Q61U3J2_BACCR
Q61U3J2_BACCR
Q61U3J2_BACCR
Q61U3J2_BACCR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q8ZĪ74_YERPE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q81DZ1 E Q81R08 E Q738W2 E Q8U332 E Q8WTS5 E Q8WTS5 E Q8WTS5 E QSDHT7 G
 P68643 camelpox vi
P68859 vaccinia vi
P68599 vaccinia vi
P68599 vaccinia vi
P68600 vaccinia vi
P68600 vaccinia vi
P68600 vaccinia vi
Q4971 vaccinia vi
Q76q6 variola min
Q77410 vaccinia vi
Q807117 ectromelia
Q807117 ectromelia
Q80718 sapprogillus
P7348 synehocyst
Q80718 laspergillus
P7348 synehocyst
Q8078 laspergillus
P22280 ricordea fl
Q54876 anopheles
Q5225 candida alb
P22280 ricordea fl
Q51476 anopheles
Q6076 ricordea fl
Q51476 pacillus
Q6076 ricordea fl
Q51476 sevinia car
Q6077 erwinia car
Q6077 erwinia car
Q6077 erwinia car
Q6507 erwinia car
Q55074 legionella
Q55741 elgionella
Q55741 elgionella
Q55741 elgionella
                                                                                       // Search time 199 Seconds
(without alignments)
41.835 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
           GenCore version 5.1.8
Copyright (c) 1993 - 2006 Biocceleration Ltd.
                                                                                                                                                                                                                                                                                              Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                            2849598 seqs, 925015592 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QSXSQ2_LEGPA
QSZVY4_LEGPH
TRPB_NEIGO
                                                                                                                                                                                                                                                                                                                                                                      Bummaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ASPOR
SYNY3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STAHO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SCAUD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ARATH
9EURY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WHR2_VACCA
WHR2_VACCC
WHR2_VACCV
WHR2_VARV
                                                               - protein search, using sw model
                                                                                                                                                                                                   OLIGO
Gapop 60.0 , Gapext 60.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q4K6A8_F
Q6DB07_E
Q5WC87_E
Q5WX32_I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q8QN33
Q4WIR3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q2U7D1
P73845
Q8VUW8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            038248
05A2T5
RAS3 RH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  OSTOR6
OSCAE4
O2NEH9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q8T5E9
                                                                                          06:12:05
                                                                                                                                                                                                                                                                                                                                                                                            UniProt 7.2:*
1: uniprot sprot:*
2: uniprot_trembl:*
                                                                                                                                                                                                                                                                                                                                                                    Post-processing: Listing first 1000
                                                                                                                                                                                                                                                                                                                             seq length: 0
seq length: 200000000
                                                                                                                                             US-10-764-985-2
9
1 KVDDTFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB
                                                                                          May 17, 2006,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     %
Query
Match Length D
                                                                                                                                                                       KVDDTFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
10000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1000.0
1
                                                                                                                                                              score:
                                                                                                                                                                                                   Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score
                                                              OM protein
                                                                                                                                                                                                                                                                       Word size :
                                                                                                                                                                                                                                                                                                                           Minimum DB e
Maximum DB e
                                                                                                                                                                         Sequence:
                                                                                                                                                                                                                                           Searched:
                                                                                                                                                                                                                                                                                                                                                                                              Database
                                                                                          ë
::
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Result
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Run
```

Q4hkel campylobact Q8cxg6 mycoplasma Q6cxg6 mycoplasma Q6cxg6 mycoplasma Q6cxg6 mycoplasma Q6c5t8 yarrowia li Q5agj7 aspergillus Q6c510 kluyveromyc Q626y0 caenorhabdi Q31cu8 pseudoalter Q31cu8 pseudoalter Q31cy9 thiomicrosp Q31797 trichoplax Q31799 trichoplax Q31799 trichoplax Q31799 trichoplax Q31799 trichoplax Q31799 trichoplax Q31799 trochoplac Q5mz0 cyanophage Q5yv13 nocardia fa Q5yv13 nocardia fa Q5yv13 mocardia fa Q5yv13 mocardia fa Q3v3d7 mus musculu Q4mm1 theileria p Q9xyh3 babesia big Q5yv13 mocardia fa Q3v3d7 mus musculu Q4mm49 rickettsia Q4um49 rickettsia Q4um49 rickettsia Q5dg1G1 symbiobacte Q3dg1G1 symbiobacte Q3dg1G1 symbiobacte Q6xm23 bacillus li Q5xx1 geobacillus Q5xx1 geobacillus Q5xx1 geobacillus Q6xx1 bacillus ha Q5xx1 bacillus cl Q4xg96 plasmodium Q6xx1 bacillus cl Q4xg96 plasmodium Q2xffz6 methanospha	Q31906 pseudoalter Q2wryl clostridium Q4yd8 plasmodium Q31K99 rhodoferax Q317b1 nitroscocc Q3mlm6 anabaena va Q9yi68 bufc marinu Q4j9i7 sulfolobus Q40d4 trypanosoma Q4g2f2 trypanosoma Q4g2f2 trypanosoma Q4g2f2 trypanosoma Q8d2f3 pseudomonas Q8rse9 pseudomonas Q8rse9 pseudomonas Q8rse9 pseudomonas Q8rse9 pseudomonas Q8rse9 pseudomonas Q8rse9 pseudomonas Q94433 pseudomonas Q94433 pseudomonas Q944343 pseudomonas Q94434 bordetella Q95444 streptococc Q8413e6 staphylococc Q8413e6 staphylococc Q85x44 streptococc
222 2 04HKS1 CAMLA 226 1 TRMD WTCPE 226 2 06NPS9 ARATH 227 2 06CST9 YARL1 230 2 05AQJT EMENI 232 2 06SQJT EMENI 233 1 DEOD FSHITT 234 2 0626T0 CAEBR 235 2 0626T0 CAEBR 237 2 031799 9METZ 240 2 031799 9METZ 240 2 031799 9METZ 240 2 031799 9METZ 240 2 031799 9METZ 241 2 031799 9METZ 242 2 031799 9METZ 243 2 031799 9METZ 244 2 031799 9METZ 245 2 046M8M THEET 248 1 TRUA HELHP 248 1 TRUA HELHP 248 2 0346M1 GEOKYSA 255 2 046M8M GEOKYSA 255 2 046M8M GEOKYSA 256 2 046M8M GEOKYSA 257 2 065MZA GRYPA 268 2 065MZA GRYPA 269 2 036MR44 9 9DEIO 269 2 044M89 9DEIO 269 2 044M89 9DEIO 269 2 044M89 9DEIO 269 2 04MEZG 9EURX 260 2 04MEZG 9EURX	2000
1178 1181 1811 1812 1813 1814 1819 1819 1819 1819 1819 1819 1819	ស់ ស
erythrob ratthrob ratthrob ratthrob ratthrop ratthrop rattyanos oryza sa leptospi leptospi leptospi leptospi leptospi leptospi leptospi leptospi leptospi ratthrop ra	Quantity about 1110s ce Quantity about 6 chlorobium Q61009 picrophilus Q61009 picrophilus Q61009 picrophilus Q63629 coxiella bu Q3704d prosthecoch Q37179 trichodesmi Q97a41 thermoplasm Q97a41 thermoplasm Q97a41 thermoplasm Q6762 canis famil Q4ked7 pseudomonas Q3618 paramecium Q3imt7 natronomona Q63f37 bacillus ce Q3yb22 sarcoptes s Q2tal burkholderi a Q3yb22 sarcoptes s Q2tal choloromon Q6110s chodopseudo Q81u2 rhodopseudo Q81u2 rhodopseudo Q81u2 rhodopseudo Q81u2 rhodopseudo Q81u2 rhodopseudo Q81u2 rhodopseudo Q81u3 rhodopseudo Q81u3 rhodopseudo Q81u3 rhodopseudo Q81u3 rhodopseudo Q371x9 rhodopseudo Q371x9 rhodopseudo Q371x9 rhodopseudo Q371x9 rhodopseudo Q371x9 rhodopseudo
55.6 137 2 Q2NCA0 9SPHN 55.6 138 1 Q315F6_DESDG 55.6 138 2 Q415F6_DESDG 55.6 140 1 SCR5 SCH0 55.6 140 1 Q4N2J7_THEAN 55.6 140 2 Q4N2J9_THEPA 55.6 147 2 Q60DG_QNSA 55.6 147 2 Q60DG_QNSA 55.6 147 2 Q60DG_QNSA 55.6 148 2 Q8FYO_LEPIN 55.6 149 2 Q72W4_LEPIN 55.6 149 2 Q917XP 55.6 149 2 Q917XP 55.6 151 2 Q94F59_9PROT 55.6 152 2 Q407XG_PNCGI 55.6 153 2 Q407XG_PNCGI 55.6 155 2 Q407XG_PNCGI 55.6 155 2 Q407XG_PNCGI 55.6 157 2 Q917XP_DROWE 55.6 167 2 Q917XP_DROWE 55.6 170 2 Q5C0ZC_CRUPA 55.6 170 2 Q5C0ZC_CRUPA 55.6 170 2 Q62GSS_WUDV 55.6 180 2 Q5CSS_WUDV 55.6 180 2 Q5CSS_S_GUDS 55.6 180 2 Q5CSS_S_SUDS 55.6 190 2 Q5CSS_S_S_SUDS 55.6 190 2 Q5CSS_S_S_S_S_S_S_S_S_S_S_S	55.6 55.6
11111111111111111111111111111111111111	

Ω
3
rup
7
•
+
-
5
٠.
N
•
•
985
∞
Ď.
.764
ā.
Ø
7
è
_
∵.
<u>18</u>
3
-

Q36189 marinobacte Q7tx10 trhodopseudo Q37tx10 trhodopseudo Q39110 burkholderi Q51387 thodopseudo Q57tp1 salmonella Q89x49 bradyrhizob Q82s13 salmonella Q82s0 salmonella Q82s0 salmonella Q82s0 salmonella Q82s0 sarabidopsis Q8xv5 arabidopsis Q8xv6 escherichia Q81395 caenorhabdi Q9v1nl drosophila Q21395 caenorhabdi Q9v1nl drosophila Q21395 caenorhabdi Q9v1nl drosophila Q25v40 escherichia Q850x0 extya sativ Q31y02 methanococc Q3vepQ drosophila Q61y02 escherichia Q61x8 burkholderi Q61x8 burkh	Q492x4 staphylococ Q4mmi0 bacillus ce Q63c19 bacillus ce Q63c19 bacillus ce Q63c2 bacillus che Q81en7 bacillus ce Q739x3 bacillus ce Q739x3 bacillus ce Q739x3 bacillus ce Q60x16 caencrhabdi Q81c10 caencrhabdi Q81c10 drosophila Q91c0 caencrhabdi Q41c0 caencrhabdi Q41c0 caencrhabdi Q41c0 caencrhabdi Q42c4 colwellia p Q7qy86 glardia lam Q2awr2 bacillus th Q7x1d1 oryza sativ Q7m183 anabaena va Q41q10 gibberella G63c46 babesia bov Q2svp8 burkholderi
4 2 Q36LS9 MARHY 4 2 Q37RJ4 TAAT 5 2 Q37RJ4 TAAT 6 2 Q37RJ4 TAAT 5 2 Q37RJ1 BURS3 5 2 Q37RJ2 SALPA 5 2 Q37RJ2 SALPA 6 2 Q82SJ3 SALPA 6 2 Q82SR SALPA 6 2 Q82SR SALPA 6 2 Q82SR SALT 7 Q82SR SALT 8 Q82R SALT 9 Q82R SALT 1 Q8R SALT 1 Q8R SALT 2 Q8R SALT 1 Q8 SALT 2 Q8 SALT 3 Q8 SALT 4 Q8 SALT 6 Q9 SALT 6 Q9 SALT 6 Q9 SALT 6 Q9 SALT 7 Q Q8 SALT 8 Q9 SALT 9 Q Q8 SALT 9 Q Q8 SALT 1 Q Q8 SALT 2 Q SALT 3 Q SALT 4 D SALT 5 Q SALT 6 Q SALT 6 Q SALT 7 SALT 7 Q SALT 8 Q SALT 9 Q	0000000000000000000000
324 326 327 328 327 328 331 332 332 332 332 332 332 332	u w w w w w w w w w w w w w w w w w w w
caenorhabdi brucella ab brucella ab brucella ab appergillus schistosoma anopheles g magnetospir ralstonia e parachlamyd parachlamyd purkholderi peudomonas mus musculu hahella fas lactobacill nus musculu hamella car homo sapien homo sa	appergillus arabidopsis pseudomonas nocardia fa homo sapien listeria mo listeria mo listeria mo listeria mo listeria in n 12 days e human rotav human rotav kenopus lae gallus gall kenopus lae kenopus lae schopus lae
0220180 0557940 0817040 0817040 0817040 0817040 088893 088893 088893 088893 088893 088893 088893 088893 088893 088893 088893 0891704 0888100	020105 020105
55.6 284 2 020180 CAREL 55.6 284 2 087901 BRUMB 55.6 287 2 0201829 ASPONS 55.6 281 2 020180 CARS 55.6 291 2 02019 BRUMB 55.6 293 2 088873 ESESM 55.6 294 2 02019 BRUMB 55.6 294 2 02018 BRUMB 55.6 299 2 02018 BRUMB 55.6 290 2 02019 BRUMB 55.6 290 2 0	66 9 313 2 2 2 2 2 3 1 3 3 2 2 2 3 3 3 3 3 3
22551 22554 22555 22555 22555 22555 22555 2255	22

Q8x058 neurospora Q70312 photorhabdu Q6yxz5 oryza sativ Q105x91 enterobacte Q6nx010 brachydanio Q81002 caenorhabdi Q813k3 plasmodium Q221k5 shewanella Q82183 shewanella Q82183 shewanella Q82183 tereptomyce G5qxf6 idiomarina Q8x61 bacillus ha Q8w91 bacillus ha Q8w91 bacillus car Q2w9v3 magnetospir Q9fr8 wheat roset Q2w9v3 magnetospir Q9fr8 wheat roset Q470v9 ralstonia e P17167 lactobacill Q28123 salinibacte Q51813 silicibacte Q51814 silicibacte Q51814 silicibacte Q52x04 desulfovibr Q5381 streptomyce Q52x14 streptomyce Q52x14 streptomyce Q52x14 streptomyce Q52x16 shewanella Q5481 streptomyce Q5481 treptomyce Q5483 sapergillus Q44883 trypanosoma Q34516 shewanella Q34518 sreptomyce Q52x38 sapergillus Q42x83 trypanosoma Q3vbh9 sphingopyxi Q4b869 burkholderi Q5x891 legionella Q5x891 legionella Q5xab4 caulobacter	Q84116 dictyosteli Q8fuli corynebacte Q9dhq9 yaba-like d P15627 soybean chl Q9fuy8 nicotiana t Q604Ke methylococc Q2uu86 aspergillus Q62412 oryza sativ Q35129 bradyrhizob Q37129 bradyrhizob Q37129 anopheles g Q5cxr2 cryptcspori Q4wk3 aspergillus Q3wbal frankia sp. Q3wbal frankia sp. Q3wbal frankia sp. Q3wbal nitrobacter Q669j7 glomeris ma Q449pl solibacter Q6msv4 corynebacte Q8nu94 corynebacte Q8nu94 corynebacte Q8mv3 citrus maxi
55.6 385 2 Q8XO58 NEUCR 55.6 387 2 Q6XXZS ORYSA 55.6 387 2 Q6XXZS ORYSA 55.6 387 2 Q6XXZS ORYSA 55.6 387 2 Q21634 9DELT 55.6 389 2 Q76XXI 9CMD 55.6 389 2 Q76XXI 9CMD 55.6 389 2 Q6XXX 9CMD 55.6 396 2 Q8ZLKS SRBPU 55.6 396 2 Q8ZLKS SRBPU 55.6 399 2 Q8ZLKS SRBPU 55.6 402 Q8ZLKS SRBWT 55.6 402 Q9ZKSI BACSK 55.6 404 2 Q5XZKS BACK 55.6 408 2 Q9ZKSI BACSK 55.6 408 2 Q9ZKSI SRWC 55.6 408 2 Q9ZKSI BACK 55.6 408 2 Q9ZKSI SRWC 55.6 411 2 Q4RSYP BOCK F 55.6 411 2 Q4RSYP BOCK F 55.6 411 2 Q4RSYP BOCK F 55.6 421 2 Q4RYP TRYCK 55.6 421 2 Q4RYP TRYCK 55.6 421 2 Q4RYP AZRC 55.6 421 2 Q4RYP AZRC 55.6 428 2 Q3ZKSI BACK 55.6 428 2 Q3ZKSI SRRN 52.6 428 2 Q3ZKSI SRRN	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4
44444444444444444444444444444444444444	
03fbi9 burkholderi 045299 burkholderi 03jgp5 burkholderi 03jgp5 burkholderi 04bcg5 burkholderi 04bcg5 burkholderi 04bcg5 burkholderi 04bcg5 burkholderi 05mcb6 lactococcus 03jsw4 burkholderi 05mcb6 lactococcus 05mcb8 lactococcus 05mgb nephalodes 06lpm4 caenorhabdi 09mcb8 lactococcus 05m3f7 streptococcus 05m3f7 streptococcus 05m3f7 streptococcus 05m3f7 streptococcus 05m3f7 streptococcus 05m3f7 streptococcus 05m3f8 methanospir 08f594 rice dwarf pl6594 rice dwarf 03m3f9 methanospir 08f594 rice dwarf pl6594 rice dwarf pl6694 rice dwa	
55.6 345 2 Q3FB19 9BURK 55.6 345 2 Q4452G9 9BURK 55.6 345 2 Q4452G9 9BURK 55.6 345 2 Q445GG9 9BURK 55.6 346 2 Q446GG5 BURP1 55.6 348 2 Q48CG5 BURP1 55.6 348 2 Q48CG5 BURP1 55.6 348 2 Q48CG6 9VIRU 55.6 350 2 Q58HQ9 9NEDP 55.6 350 2 Q58HQ9 9NEDP 55.6 350 2 Q58HQ9 9NEDP 55.6 351 2 Q58HQ9 9NEDP 55.6 353 1 VP10 RDV	55.6 55.6 55.6 55.6 55.6 55.6 55.6 55.6
00000000000000000000000000000000000000	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4

Ĺ

Q94d20 oryza sativ Q5x4g caenorhabdi Q73ex0 bacillus ce Q68f54 xenopus lae Q5x4g5 aspergillus Q37mx6 rhodopseudo Q7nst0 chromobacte Q9xq13 oryza sativ Q9yvp1 sulfolobus Q4cy09 trypanosoma Q4cyy09 trypanosoma	Q2030 Caenorhabdi Q20477 Caenorhabdi Q6fk83 candida gla Q4m2f7 theileria p Q5cih4 cryptospori Q5cih4 cryptospori Q4n3n3 theileria p Q8kz28 uncultured Q3jkv0 burkholderi Q4d79 wolbachia e P54980 thodobacter Q974j8 eulfolobus Q69xg4 oryza sativ Q69xg4 oryza sativ	Q6m154 bdellovibri Q7571 ashbya goss Q75913 cryza sativ Q2xbyl pseudomonas Q4xe4 gibberella Q61k84 caenochabdi Q8ed85 pseudomonas Q51k94 bacteroides Q54mv8 bacteroides Q57vy5 sulfolobus Q61k86 picrophilus P45963 caenorhabdi Q7ukp3 rhodopirell Q7ukp3 rhodopirell Q61218 caenorhabdi Q61263 saccharomyc Q41kf8 ferroplasma	093gz4 streptomyce 0974s sulfolbbus 075aq4 neurospora 065917 lycopersico P4754 aeromonas h 03gr17 psychrobact 04657 nicotiana t 04657 nicotiana t 04916 nicotiana a 0841f1 nicotiana a 0841f1 nicotiana a 0841f1 nicotiana a 0841f2 nicotiana a 0841f2 nicotiana a 0841f1 nicotiana a 0841f2 nicotiana a 0	escher capsic lycope solanu solanu solanu mesorh
55 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	55.6 55.6	555 6 557 6 55	5 55.6 543 2 093GZ4_STRAW 5 55.6 545 2 078AQ4_NULTO 5 55.6 545 2 078AQ4_NUSUCR 5 55.6 547 1 0GSPA_ABRHY 5 55.6 547 2 0G5917_LYCES 5 55.6 547 2 0G4FZ2_PSYAR 5 55.6 548 1 SAS_TOBAC 5 55.6 548 2 078A3_TOBAC 5 55.6 548 2 078A3_TOBAC 5 55.6 548 2 078A3_TOBAC 5 55.6 548 2 084LFQ_9SOLA 5 55.6 549 2 093IZQ_SOLTU 5 55.6 559 2 094IZQ_SOLTU 5 55.6 550 2 093IZQ_SOLTU 5 55.6 550 2 093IZQ_SOLTU	55.6 55.6 55.6 55.6 55.6 55.6 55.6 55.6
616 618 619 619 620 622 623 624 625	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	662 663 663 666 666 670 671 671 671 681 681	6 6 8 2 4 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8
			0870125 bacillus su 08701 xylella fas 08787 oryza sativ 08487 oryza sativ 083x02 lotus japon 092c01 listeria in 02keql magnaporthe 05wrd6 caemorhabdi 06msil mycoplasma 090157 choristomeu 07q4i4 anopheles g 048812 streptococc 093811 temperate p 079xu4 streptococc 093811 temperate p 079xu4 streptococc 090x1 xylella fas 08pcr4 xanthomonas 04uqp6 xanthomonas 04uqp6 xanthomonas 08h251 medicago tr 0892q7 bacteroides	oryza sati oryza sati sphingopyx streptococ streptococ streptococ shewanella
2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	55 5 5 6 6 6 6 7 7 7 7 8 7 8 7 8 7 8 7 8 7 8 7	55.6 55.6 55.6 55.6 55.6 55.6 55.6 55.6	5 55.6 484 1 GIGA BĀCSU 5 55.6 486 2 087CPI XYLFT 5 55.6 486 2 084KJJ_RYSA 5 55.6 486 2 084KJJ_RYSA 5 55.6 486 2 084KJJ_RYSA 5 55.6 486 2 092CGI_LISIN 5 55.6 489 2 02KGGI_LISIN 5 55.6 490 2 02KGGI_LISIN 5 55.6 491 1 UDPR_NPCRS 5 55.6 491 1 UDPR_NPCRS 5 55.6 492 2 078TGI_RYCRS 5 55.6 492 2 078TGI_STRP 5 55.6 493 1 AMPA_XNNCP 5 55.6 493 1 AMPA_XNNCP 5 55.6 493 2 04UQFG_XANCR 5 55.6 493 2 04UQFG_XANCR 5 55.6 493 2 04UQFG_XANCR 5 55.6 493 2 04UGFG_XANCR 5 55.6 494 2 04UGFG_XANCR 5 55.6 495 2 04UGFG_XANCR 5 55.6 496 2 04UGFG_XANCR 5 55.6	55.6 497 2 55.6 497 2 55.6 497 2 55.6 497 2 55.6 497 2 55.6 497 2 55.6 499 2
6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	555 555 556 557 563 563 564 565 570 570	573 574 574 575 576 578 580 581 586 586 586	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	609 610 611 612 613 614

09sn07 arabidopsis 04cmj1 trypanosoma 05cgvd idiomarina 06cgvg yarrowia ii 08h106 arabidopsis 06ct07 oryza sativ 07pv63 anopheles g 08ii18 plasmodium 03zlt0 burkholderi 0415mS gibberella 0415mS gibberella 0415m gibberella 0415m oraphylococ P6118 treponema d 08rcg hourio para 05tej8 homo sapien 05tej8 homo sapien 05tv4 xenopus tro 07rzk neurospora 05tv4 xenopus tro 09v1k drosophila 07rzk anopus tro 05v4kt candida alb 05sahkl anopus cro 05v4kt candida alb 05sahkl drosophila 04sakt candida alb 05sahkl haloarcula 05slp9 oryza sativ 05slp9 oryza sativ 05v0f1 haloarcula	Genuca xenopus lase glaude glaude yearly rhodopseudo glazul zaletonia si glazul zaletonia si glazul zaletonia si glazul spiroplasma glados yersinia pe glazul salmonella glazul sulmonella glazul sulmonella glazul sulmonella glazul sulmonella glazul salmonella glazul
55.6 57.5	5 55.6 678 2 QGNUC4_XENTA 5 55.6 680 2 Q14BQT_RHOPA 5 55.6 681 2 Q14BQT_RHOPA 5 55.6 681 2 Q13CVLT_SPLCI 5 55.6 681 2 Q13CVLT_SPLCI 5 55.6 681 2 Q15CGB_SALET 5 55.6 691 2 Q15CGB_SALET 5 55.6 712 2 Q15CGB
	7 7 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8
asperga oryza i crypaic trypaic theiles puseda home s home c home in home c home in home in hom in hom in hom in hom hom in hom in hom in hom in hom in hom in hom in home in hom in hom i	Q9fmun6 cowpox viru Q9ffsb vaccinia vi P03680 bacteriopha Q38545 bacteriopha Q86526 yarrowia li Q2855 mycoplasma Q86526 yarrowia li Q2855 mycoplasma Q8557 mycoplasma Q85477 dictyosteli Q42947 nicotiana t Q4304 trypanosoma Q4308 erwinia car Q64329 erwinia car Q64454 plasmodium Q34063 shewanella Q24645 plasmodium Q34063 shewanella Q6461 arabidopsis Q5211 gallus gall Q9465 caenorhabdi Q57459 caenorhabdi Q57459 caenorhabdi Q57459 caenorhabdi Q57459 aspergillus
555 56 56 56 56 56 56 56 56 56 56 56 56	5 55.6 574 2 080NNG COWPX 5 55.6 574 2 080NG COWPX 5 55.6 575 2 038545 BPPH2 5 55.6 575 2 038545 BPPH2 5 55.6 577 2 026525 WARLI 5 55.6 577 2 026525 WARLI 5 55.6 578 2 075182 ORYSA 5 55.6 579 2 024WO CARER 5 55.6 579 2 024WO CARER 5 55.6 580 2 020WO CARER 5 55.6 580 2 020WO CARER 5 55.6 580 2 020WO COWN CARER 5 55.6 580 2 020WO COWN COWN COWN COWN COWN COWN COWN CO
689 6990 6990 6993 6996 6996 6997 7007 7007 7008 7117 7112	7115 7116 7117 7118 7120 7120 7130 7130 7144 7144 7146 7176 7176 7176 7176 7176

Q872b5 pseudomonas Q88x2 pseudomonas Q86x2 pseudomonas Q76mp4 caenorhabdi Q46x28 caenorhabdi Q42x23 pseudomonas Q36xv0 marinobacte Q44yn0 trypanosoma Q8bui9 mus musculu Q8ppj3 xanthomonas Q8bi87 mus musculu Q418F9 rheileris a	983297 cincipates a graph of g
	88888888888888888888888888888888888888
w w w w w w w w w w w w w w w w w w w	๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛
908 909 910 911 914 915 916	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
P18653 mus musculu Q4ys78 plasmodium Q60c15 methylococc Q4n2e9 theileria p Q5qlc6 oryza sativ Q4rmel tetraodon n Q7zvh8 brachydanio Q15418 homo sapien Q63531 rattus norv Q5svm8 homo sapien Q2rul9 rhodospiril Q2rul9 mus musculu	0505n6 mus musculu 067wy5 oryza sativ 084884 asterina pe 044fm4 campylobact 074rg2 drosophila 09piz8 campylobact 088x87 drosophila 060x52 caenorhabdi 07510 ashbya goss 08627 caenorhabdi 07510 ashbya goss 080x17 caenorhabdi 07510 ashbya goss 080x17 caenorhabdi 07510 ashbya goss 080x17 caenorhabdi 044xy12 plasmodium 060x2 caenorhabdi 044xy12 plasmodium 060x12 mycoplasma 0810v8 mus musculu 07xbb plasmodium 081fg dictyosteli 07xbb plasmodium 086fg archideri 07xaq pseudomonas 07xbb purkholderi 07xbb purkholderi 07xbb purkholderi 07xbb purkholderi 05xbd daspergillus 056bd caenorhabdi 076bd pardia lam 08dibe plasmodium 04dbw trypanosoma 04dbw try
5.6 5.6 5.6 5.6 5.6 724 724 724 727 727 727 727 727	7.5 6 735 2 0505NG MOUSE NO. 5 6 736 2 067NNG MOUSE NO. 5 6 738 2 087NNG MONSE NO. 5 6 738 2 087NNG MONSE NO. 5 6 739 2 077NNG MONSE NO. 5 6 739 2 077NNG MONSE NO. 5 6 741 2 087NNG MONSE NO. 5 6 752 2 097NNG MONSE NO. 5 6 771 2 046NNG MONSE NO. 5 771 2 044NNG MONSE NO.
ល ហ ល ល ល ល ល ល ល ល ល ល ល	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8

```
Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms
Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE-98263813; PubMed-9601507; DOI=10.1006/viro.1998.9123; Antoine G., Schaiflinger F., Dorner F., Falkner F.G.; "The complete genomic sequence of the modified vaccinia Ankara strain: comparison with other orthopoxviruses.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VHR2_VACCA STANDARD, PRT; 150 AA.
P68598; P17363; Q76ZY7;
P68598; P17363; Q76ZY7;
O7-DEC-2004, integrated into UniProtKB/Swiss-Prot.
O7-DEC-2004, sequence version 1.
O7-EB-2006, entry version 5.
HOST range protein 5.
HOST range protein 3.
HOST range protein 5.
Vaccinia virus (strain Ankara) (VACV).
Vaccinia virus (strain Ankara) (VACV).
Viruses; dsDNA viruses, no RNA stage; Poxviridae; Chordopoxvirinae;
                                                                                                                                                                                                                                            PubMed=11907336;
Gubser C., Smith G.L.;
"The sequence of camelpox virus shows it is most closely related to
                                                                                                               Camelpox virus (strain CMS).
Viruses; dsDNA viruses, no RNA stage; Poxviridae; Chordopoxvirinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -!- FUNCTION: Plays a role for multiplication of the virus in different cell types (By similarity).
-!- SIMILARITY: Belongs to the poxviruses C7 family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Esposito J.J., Frace M., Sammons S.A., Olsen-Rasmussen M.S., Osborne J., Khristova M., Wohlhueter R.M.; Submitted (APR-2004) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                           variola virus, the cause of smallpox.";
J. Gen. Virol. 83:855-872(2002).
-!- FUNCTION: Plays a role for multiplication of the virus different cell types (By similarity).
-!- SIMILARITY: Belongs to the poxviruses C7 family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL; AY009089; AAG37475.1; -; Genomic_DNA.

InterPro; IPR004967; Pox C7 F8A.

Em; PF03287; Pox C7 F8B; 1.

PIRSF, PIRSF00379; VAC_C7L, 1.

CHAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 150;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            100.0%; Score 9; DB 1; Lengtn L.V. 100.0%; Pred. No. 0.014;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /FTId=PRO_0000099391.
150 AA; 18069 MW; 3D5557A6BAF83D95 CRC64;
  07-DEC-2004, integrated into UniProtKB/Swiss-Prot. 07-DEC-2004, sequence version 1. 07-FBE-2006, entry version 6. Probable host range protein 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
                                                                                                                                                                                                       [1]
NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         [1] ...
NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STRAIN-Isolate Acambis 3000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Virology 244:365-396(1998).
                                                                                          OrderedLocusNames=CMP19L;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity 100.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             σ
                                                                                                                                                          Orthopoxvirus.
NCBI_TaxID=203172;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 KVDDTFYYV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      KVDDTFYYV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NCBI_TaxID=126794;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Orthopoxvirus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      74
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
      ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                   oryza sativ
                                                                                                                                                                                 magnaporthe
                                                                                                                                                                                                     homo sapien
                                                                                                                                                                                                                                              listeria mo
                                                                                                                                                                                                                                                                entamoeba h
                                                                                                                                                                                                                                                                                           trypanosoma
                                                                                                          shewanella
                                                                                                                                                                                                                          photorhabdu
                                                                                                                                                                                                                                                                                                                                  dictyosteli
                                                                                                                                                        solibacter
                                                                                                                                                                                                                                                                                                                                                         dictyosteli
                                                                                                                                                                                                                                                                                                                                                                                                  dictyostel;
dictyostel;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms
Distributed under the Creative Commons Attribution-NoDerivs License
                                                                    candida
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                          giardia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Camelpox virus (strain M-96).
Viruses; dsDNA viruses, no RNA stage; Poxviridae; Chordopoxvirinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
MEDLINE-22031204; PubMed=12033760; DOI=10.1006/viro.2001.1343;
Afonso C.L., Tulman E.R., Lu Z., Zsak L., Sandybaev N.T.,
Kerembekova U.Z., Zaitsev V.L., Kutish G.F., Rock D.L.;
"The genome of camelpox virus.";
Virology 295:1-9(2002).
'Yirology 295:1-9(2002).
'FUNCTION: Plays a role for multiplication of the virus in different cell types (By similarity).
'I SIMILARITY: Belongs to the poxviruses C7 family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                           092ng8
06fga8
022867
022867
043713
043713
069pr5
07m20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EMBL; AF438165; AAL73726.1; -; Genomic_DNA.
InterPro; IPR004967; Pox C7_F8A.
Elam; PF03287; Pox_C7_F8A; 1.
PIRSF, PIRSF00379; VAC_C7L; 1.
CHAIN: PISSF00379; VAC_C7L; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100.0%; Score 9; DB 1; Length 150; Similarity 100.0%; Pred. No. 0.014; 9; Conservative 0; Mismert.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /FTIGE-PRO 0000099390.
150 AA; 18069 MW; 3D5557A68AF83D95 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VHR2_CAMPM STANDARD; FRI; LOCALING STANDARD; P68643; Q8V2Z8; 07-DEC-2004, integrated into UniProtXB/Swiss-Prot. 07-DEC-2004, sequence version 1. 07-PEB-2006, entry version 6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    150 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ALIGNMENTS
                                                                                        GIALA
9GAMM
ORYSA
SOLUS
                                                                                                                                                                          MAGGR
                                                                                                                                                                                                                     PHOLL
                                                                                                                                                                                                                                                                                                           PDEIO
                                                                                                                                                                                                   HUMAN
                                                                                                                                                                                                                                                                                                                                Q54BG8_DICDI
Q54ZA1_DICDI
                                                                                                                                                                                                                                                                                                                                                                         OSS2IS_DICDI
OSSD49_DICDI
                                                                                                                                                                                                                                                                                                                                                                                                                      29GQ49_DICD1
                    OSA115 C
Q9ZNG8 P
Q6FQA8 C
Q7R2W4 G
                                                                                                                               Q69PR5 043ZL3
                                                                                                                                                                                                                                                                Q2KEZ1
                                                                                                                                                                                                 Q6ZUM6
                                                                                                                                                                                                                     07MZ50
                                                                                                                                                                                                                                          Q4ESIO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Probable host range protein 2. OrderedLocusNames=CMLV019;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STANDARD;
10045
10046
10046
10046
10053
10080
110084
111084
11113
111138
1111444
111444
111444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 KVDDTFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       KVDDTFYYV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NCBI TaxID=203173;
VHR2_CAMPS
ID VHR2_CAMPS 8
AC P68642; Q8V2Z8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Orthopoxvirus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         74
```

SO THE PRESENT OF THE PROPERTY OF THE PROPERTY

RESULT

ð

RESULT 1

9981 9983 9983 9993 9993 10999 10999 10999

ö

Gaps

;

Matches

ઠે 셤

DA ROB BRANT TO SO TITLE OF THE SO TITLE OF TH

```
Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms
Distributed under the Creative Commons Attribution-Noberivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE=93329391; PubMed=8336123;
Oguiura N., Spehner D., Drillien R.;
"Detection of a protein encoded by the vaccinia virus C7L open reading frame atudy of its effect on virus multiplication in different cell lines.";
J. Gen. Virol. 74:1409-1413(1993).
-!- FUNCTION: Plays a role for multiplication of the virus in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NUCLECTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].

ESPOSITO J.J., Frace A.M., Sammons S.A., Olsen-Rasmussen M.,
Osborne J., Wohlhueter R.;
"Sequencing of the coding region of Vaccinia-WR to an average 9-fold
redundancy and an error rate of 0.16/10kb.";
Submitted (FEB-2003) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                   OrderedLocusNames=VACWR021; ORFNames=C7L;
Vaccinia virus (strain Western Reserve / WR) (VACV).
Viruses; dsDNA viruses, no RNA stage; Poxviridae; Chordopoxvirinae;
                                                                                                                                                                                                                                                                                                                                                                                          NUCLEOTIDE SEQUENCE [GENOMIC DNA].
MEDLINE=89073756; PubMed=2849238;
KOtwal G.J., Moss B.;
Analysis of a large cluster of nonessential genes deleted from vaccinia virus terminal transposition mutant.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE=91021030; PubMed=2171207;
Perkus M.E., Goebel S.J., Davis S.W., Johnson G.P., Limbach K., Norton E.K., Paoletti E.;
"Vaccinia virus host range genes.";
Virology 179:276-286(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   100.0%; Score 9; DB 1; Length 150
100.0%; Pred. No. 0.014;
ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 150 Host range protein 2.
/FTId=PRO 0000099388.
150 AA; 17999 MW; 47CDF84ID563C0A4 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -!- SIMILARITY: Belongs to the poxviruses C7 family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 6
VHR2_VARV
ID VHR2_VARV STANDARD; PK1,
AC P33860;
AT 01-PEB-1994, integrated into UniProtKB/Swiss-Prot.
                                          VHR2 VACCV STANDARD; PRT; 150 AA.
P6860; P17363; Q762X7;
07-DEC-2004, integrated into UniProtKB/Swiss-Prot.
07-DEC-2004, sequence version 1.
07-FEB-2006, entry version 7.
Host range protein 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EMBL; M22812; AAA69601.1; -; Genomic DNA.
EMBL; AY243312; AAO89300.1; -; Genomīc_DNA.
PIR; A33348; WZVZB1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                InterPro; IPR004967; POX C7 FBA. Pfam; PF03287; POX C7 FBĀ; 1. PIRSF; PIRSF003779; VĀC C7L; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Virology 167:524-537(1988).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                74 KVDDTFYYV 82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 KVDDTFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     different cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Local Similarity
                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID=10254;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Early protein.
CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FUNCTION.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FUNCTION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                   ALD BRAND BR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms
Distributed under the Creative Commons Attribution-Noberivs License
                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Vaccinia virus (strain Copenhagen) (VACV).
Viruses; dsDNA viruses, no RNA stage; Poxviridae; Chordopoxvirinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gobel S.J., Johnson G.P., Perkus M.E., Davis S.W., Winslow J.P., Paoletti E.; Johnson G.P., Paoletti E.; Appendix to 'The complete DNA sequence of vaccinia virus'."; Virology 179:517-563 (1990).

-1- FUNCTION: Plays a role for multiplication of the virus in different cell types (By similarity).

-1- SIMILARITY: Belongs to the poxviruses C7 family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
MEDLINE=91021027; PubMed=2219722;
Goebel S.J., Johnson G.P., Perkus M.E., Davis S.W., Winslow J.P.,
Paoletti E.;
                                                                                                                                                                                                                                                                                                                                                                                             ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             100.0%; Score 9; DB 1; Length 150; 100.0%; Pred. No. 0.014; ative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                          100.0%; Score 9; DB 1; Length 150; 100.0%; Pred. No. 0.014; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                             Host range protein 2.
/FTId=PRO 0000099386.
: 47CDF84ID563C0A4 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 150 Host range protein 2.
/FTId=PRO_000099387.
150 AA; 17999 MW; 47CDF841D563C0A4 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           P68599; P17363;
07-DEC-2004, integrated into UniProtKB/Swiss-Prot.
07-DEC-2004, sequence version 1.
07-FEB-2006, entry version 5.
Host range protein 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "The complete DNA sequence of vaccinia virus.";
Virology 179:247-266(1990).
EMBL; U94848; AAB96405.1; -; Genomic_DNA.
EMBL; AX603355; AAT10416.1; -; Genomic_DNA.
PIR; A33348; WZZBI.
INCEPPO; IPR004967; POx_C7 F8A.
Pfam; PF01287; POx_C7 F8Ā; Ī.
PIRSF; PIRSF003779; VĀC_C7L; 1.
EAT!Y protein.
1 150 ḤOST range prote
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL; M35027; AAA47993.1; -; Genomic_DNA.
PIR; A33348; WZVZB1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             InterPro; IPR004967; Pox C7 F8A. Pfam; PP03287; Pox C7 F8Ā; Ī. PIRSF003779; VAC C7L; 1.
                                                                                                                                                                                                                                                                       SEQUENCE 150 AA; 17999 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ilarity 100.0%;
Conservative 0
                                                                                                                                                                                                                                                                                                                                                         Local Similarity 100.
1es 9; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  74 KVDDTFYYV 82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              74 KVDDTFYYV 82
                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 KVDDTFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 KVDDTFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Orthopoxvirus.
NCBI_TaxID=10249;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPLETE GENOME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Early protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORFNames=C7L;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE
                                                                                                                                                                                                                                                                                                                                Query Match
```

ö

Gaps

ö

RESULT 5

Length 150;

```
1 KVDDTFYYV 9
                                                                NCBI_TaxID=10245;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORFNames=RPXV013;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=32606;
                                               Orthopoxvirus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Orthopoxvirus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RPXV013
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9 POXV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STRAIN=India-1967 / Isolate Ind3; MEDLINE-93202281; PubMed=8384129; DOI=10.1016/0014-5793(93)80041-R; Shchelkunov S.N., Blinov V.M., Sandakhchiev L.S.; "Genes of variola and vaccinia viruses necessary to overcome the host
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                 Variola virus.
Viruses; dsDNA viruses, no RNA stage; Poxviridae; Chordopoxvirinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "Potential virulence determinants in terminal regions of variola smallpox virus genome.";
Nature 366:748-751(1993).
                                                                                                                                                                                                                                                                                                                                                         STRAINEBANGLAGGENT. 1975;
MEDLINE=94088747; PubMed=8264798; DOI=10.1038/366748a0;
Massung R.F., Esposito J.J., Liu L.I., Qi J., Utterback T.R.,
Knight J.C., Aubin L., Yuran T.E., Parsons J.M., Loparev V.N.,
Selivanov N.A., Cavallaro K.F., Kerlavage A.R., Mahy B.W.J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             100.0%; Score 9; DB 1; Length 150; 100.0%; Pred. No. 0.014; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Interpro, IPR04967; Pox C7 F8A.

Pfam; PF03287; Pox C7 F8A; I.

PIRSF, PIRSF003779; VAC_C7L; I.

CHAIN 1 150 Host range protein 2.

/FTIG=PRO 0000099389.

SEQUENCE 150 AA; 18027 MW; 50FDF84IC253CE94 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     13-5EP-2005, integrated into UniProtKB/TrEMBL.
13-5EP-2005, sequence version 1.
07-FEB-2006, entry version 6.
07-FEB-2006, entry version 6.
ORFNames=m8020L, m0020L;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; X69198; CAA48949.1; -; Genomic_DNA.
EMBL; L2579; AAA60756.1; -; Genomic_DNA.
EMBL; U18340; AAA69419.1; -; Genomic_DNA.
EMBL; U18337; AAA69313.1; -; Genomic_DNA.
EMBL; U18338; AAA69354.1; -; Genomic_DNA.
PIN; H36837; H36837.
                                                                                                                                                                                NUCLEOTIDE SEQUENCE [GENOMIC DNA].
                                                                                                                                                                                                                                                                                                                                               NUCLEOTIDE SEQUENCE [GENOMIC DNA].
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRT;
01-PEB-1994, sequence version 1.
07-FEB-2006, entry version 30.
Host range protein 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRELIMINARY;
                                                                                                                                                                                                                                                                                    protective mechanisms.";
FEBS Lett. 319:80-83(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity 100...
                                                            ORFNames=C7L, B15L, D8L;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 KVDDTFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PIR; T28446; T28446.
                                                                                                                                           NCBI_TaxID=10255;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               R1_9POXV
Q49QR1_9POXV 1
Q49QR1;
                                                                                                                        Orthopoxvirus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Venter C.J.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 7
Q49QR1 9P
1D Q49Q
AC Q49Q
DT 13-S
DT 07-F
DE HYPO
GN QRFN
    ST THE REPRETATION OF THE STATE AND THE PROPERTY OF THE PROPER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                              Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms
Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                     PubMed=16140764; DOI=10.1128/JVI.79.18.11873-11891.2005; Morikawa S., Sakiyama T., Hasegawa H., Saijo M., Maeda A., Kurane I., Maeno G., Kimura J., Hirama C., Yoshida T., Asahi-Ozaki Y., Sata T.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gapa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Rabbitpox virus.
Viruses; dsDNA viruses, no RNA stage; Poxviridae; Chordopoxvirinae;
dsDNA viruses, no RNA stage; Poxviridae; Chordopoxvirinae;
                                                                                                                                                                                                                                                                                          Kurata T., Kojima A.;
"An attenuated LCI6m8 smallpox vaccine: analysis of full-genome
sequence and induction of immune protection.";
J. Virol. 79:11873-11891(2005).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PubMed=16227218; DOI=10.1099/vir.0.81331-0;
Li G., Chen N., Roper R.L., Feng Z., Hunter A., Danila M.,
Leffowitz E.J., Buller R.M., Upton C.;
"Complete coding sequences of the rabbitpox virus genome.";
J. Gen. Virol. 86:2969-2977(2005).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             / Match 100.0%; Score 9; DB 2; Length 150; Local Similarity 100.0%; Pred. No. 0.014; nes 9; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 150;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            100.0%; Score 9; DB 2; Length 150
100.0%; Pred. No. 0.014;
tive 0; Mismatches 0; IndelB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL; AX678275; AAW23413.1; -; Genomic_DNA.
EMBL; AX678277; AAW23655.1; -; Genomic_DNA.
GO; GO: 0016032; P: viral life cycle; IEĀ.
InterPro; IFR004967; Pox_C7_F8A.
Pfam; PF03287; Pox_C7_F8Ā.
PIRSF; PIRSF003779; VĀ_C7L; 1.
Hypochetical protein.
SEQUENCE 150 AA; 17999 MW; 47CDP841D563C0A4 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EMBL, AY484669; AAS49726.1; -; Genomic DNA.
GO; GO:0016032; P:viral life cycle; IEĀ.
InterPro; IPR00497; Pox C7 FBA.
Pfam; PF03287; Pox C7 FBA.
PIRSF; PIRSP03779; VĀC C7L; 1.
SEQUENCE 150 AA; 17999 MW; 47CDF841D563C0A4 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    05-JUL-2004, integrated into UniProtKB/TrEMBL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          150 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QGRZS8_9POXV PRELIMINARY; PRT;
QGRZS8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     05-JUL-2004, sequence version 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   07-FEB-2006, entry version 9.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 100.08;
                                                                                                                                                             STRAIN=LC16m8, and LC16mO;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  74 KVDDTFYYV 82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 KVDDTFYYV 9
                                                                                                                        NUCLEOTIDE SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NUCLEOTIDE SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
```

```
PRELIMINARY;
                 .rology 243:432-460(1998).
                                                                                                                                                                                                                                                                             Best Local Similarity 100.
Matches 9; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9; Conservative
                                                                                                                                                                                                                                                                                                                                   74 KVDDTFYYV 82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          74 KVDDTFYYV 82
                                                                                                                                                                                                                                                                                                                      1 KVDDTFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 KVDDTFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUCLEOTIDE SEQUENCE.
                                          NUCLEOTIDE SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NCBI_TaxID=10253;
                                                                                                                                                                                                                                                                                                                                                                                                             077TN9 VACCT
077TN9;
    proteins.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local S:
Matches 9
                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 12
Q8JLI7 9PO
ID Q8JLI
AC Q8JLI
DT 01-OC
DT 01-OC
     δ
                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                            A PARTY OF THE PROPERTY OF T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                               Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                  STRAIN-Garcia-1966;
ShChel-Kunov S.N., Totmenin A.V., Gutorov V.V., Safronov P.F.,
Massung R.F., Loparev V.N., Knight J.C., Chizhikov V.E., Parsons J.M.,
Esposito J.J., Sosnovtsev S.;
Submitted (MAR-1998) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=98229462; PubMed=9568042; DOI=10.1006/viro.1998.9039; Shchelkunov S.N., Safronov P.F., Totmenin A.V., Petrov N.A., Shchelkunov S.N., Gutorov V.V., Kofwal G.J.; The genomic sequence analysis of the left and right species-specific terminal region of a cowpox virus strain reveals unique sequences and a cluster of intact ORFs for immunomodulatory and host range
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                      Viruses; dsDNA viruses, no RNA stage; Poxviridae; Chordopoxvirinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Cowpox virus (CPV).
Viruses; deDNA viruses, no RNA stage; Poxviridae; Chordopoxvirinae;
Orthopoxvirus.
NCBI_TaxID=10243;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STRAIN=GRI-90;
MEDLINE=97068532; PubMed=8963248;
Safronov P.F., Petrov N.A., Riazankina O.I., Totmenin A.V.,
Shchelkunov S.N., Sandakhchiev L.S.,
"Genes of a circle of hosts for the cowpox virus.";
Dokl. Akad. Nauk SSSR 349:829-833(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                               100.0%; Score 9; DB 2; Length 150; 100.0%; Pred. No. 0.014; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                     EMBL; Y16780; CAB54608.1; -; Genomic DNA.
GO; GO:0016032; P:viral life cycle; IEA.
InterPro; IPR004967; Pox. C7 F8A.
Pfam; PF03297; Pox. C7 F8A.
PIRSF; PIRSF003779; VAC. C7L; 1.
SEQUENCE 150 AA; 18027 MW; 50FDF841C253CE94 CRC64;
                                                                                       05-JUL-2004, integrated into UniProtKB/TrEMBL. 05-JUL-2004, sequence version 1. 07-FEB-2006, entry version 8.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0760L6_COWPX PRELIMINARY; PRT; 150 AA. 0760L6; 150 Ad. 05-JUL-2004, integrated into UniProtKB/TrEMBL. 07-PEB-2006, entry version 9.
                                                                 150 AA
                                                              PRELIMINARY; PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity luv...
9; Conservative
74 KVDDTFYYV 82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    74 KVDDTFYYV 82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 KVDDTFYYV 9
                                                                                                                                                         Variola minor virus.
                                                                                                                                                                                                                       NUCLEOTIDE SEOUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                             NCBI_TaxID=53258;
                                                                                                                               B14L protein.
Name=B14L;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              C13L protein.
                                                             076066 VARV
076066;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Name=C13L;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COWPX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 10
Q76QL6_COW
                                                                ઠે
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                      Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Vaccinia virus (strain Tian Tan) (VACV).
Viruses; dsDNA viruses, no RNA stage; Poxviridae; Chordopoxvirinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRAIN=Tian Tan;
Jin Q., Hou Y.D., Cheng N.H., Yao E.M., Cheng S.X., Yang X.K.,
Jing D.Y., Yu W.H., Yuan J.S., Ma X.J.;
Submitted (SEP-1998) to the EMBL/GenBank/DDBJ databases.
STRAIN=GRI-90;
Shchelkunov S.N., Safronov P.F., Totmenin A.V., Miheev M.V.,
Ryazankina O.I., Petrov N.A., Gutorov V.V., Kotwal G.J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              100.0%; Score 9; DB 2; Length 150; 100.0%; Pred. No. 0.014; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100.0%; Score 9; DB 2; Length 150; 100.0%; Pred. No. 0.014; ative 0; Mismatches 0; Indels
                                                                                            Sandakhchiev L.S.;
Submitted (MAR-2003) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                EMBL, X94355; CAA64098.1; -; Genomic DNA.
GO; GO:0016032; P:viral life cycle; ĪEA.
InterPro; IPRO04967; POX C7 FBA.
Pfam; PPO3177; POX C7 FBA.
PIRSF; PIRSF003179; VĀC C7L; 1.
SEQUENCE 150 AA; 17999 MW; 47CDF841D563C0A4 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; AF095689; AAF33872.1; -; Genomic DNA.
GO; GO:0016032; P:viral life cycle; IEA.
InterPro; IPRO4967; Pox. C7 F8A.
Pfam; PF032879: Pox. C7 F8A; I.
PIRSF; PIRSF003779; VAC_C711; 1.
SEQUENCE 150 AA; 17999 MW; 47CDF841D563C0A4 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            05-JUL-2004, integrated into UniProtXB/TrEMBL. 05-JUL-2004, sequence version 1. 07-FEB-2006, entry version 8.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             17 9POXV
QBJL17 9POXV PRELIMINARY; PRT; 150 AA.
QBJL17 01-0CT-2002, integrated into UniProtKB/TrEMBL.
01-0CT-2002, sequence version 1.
```

18

```
Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms
Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
STRAIN=A£293 / CBS 101355 / FGSC A1100;
Pubmed=16372009; DOI=10.1038 Musturee04332;
Nierman W.C., Pain A., Anderson M.J., Wortman J.R., Kim H.S.,
Arroyo J., Berriman M., Abe K., Archer D.B., Bermejo C., Bennett J.W.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRAIN=Brighton Red;
MEDLINE=94378510; PubMed=8091665;
Hu F.Q., Smith C.A., Pickup D.J.;
Hu F.Q., Smith C.A., Pickup D.J.;
"Cowpox virus contains two copies of an early gene encoding a soluble secreted form of the type II INF receptor.";
Virology 204:343-356(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORFNames=Afu2g00930;
Aspergillus fumigatus (Sartorya fumigata).
Bukaryota; Pungi; Ascomycota; Pezizomycotina; Eurotiomycetes;
Eurotiales; Trichocomaceae; mitosporic Trichocomaceae; Aspergillus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE=91196263; PubMed=2014645;
Hu F.Q., Pickup D.J.;
Transcription of the terminal loop region of vaccinia virus DNA i
initiated from the telemere sequences directing DNA resolution.";
Virology 181:716-720(1991).
                                Pickup D.J., Bastia D., Stone H.O., Joklik W.K.;
"Sequence of terminal regions of cowpox virus DNA: arrangement of repeated and unique sequence elements.";
Proc. Natl. Acad. Sci. U.S.A. 79:7112-7116(1982).
                                                                                                                                                                                                                                                                           STRAIN=Brighton Red;
MEDLINE=90177-240; PubMed=2309453;
Parsons B.L., Pickup D.J.;
"Transcription of orthopoxvirus telomeres at late times during
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Dietrich F.S., Ray C.A., Sharma D.A., Allen A., Pickup D.J., Submitted (MAY-2003) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            05-JUL-2005, sequence version 1.
07-MAR-2006, entry version 6.
Possible beta-xylosidase, family 43 of glycosyl hydrolases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100.0%; Score 9; DB 2; Length 150
100.0%; Pred. No. 0.014;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL, AF482758; AAM3476.1; -; Genomic DNA.
GO; GO:0016032; P:viral life cycle; IEĀ.
InterPro; IPR004967; Pox C7 FRA.
Pfam, PF03287; Pox C7 FRĀ.
SPIRSF; PRSF003779; VAC C7L; 1.
SEQUENCE ISO AA; 17954 MW; 6B5C029714B02944 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                05-JUL-2005, integrated into UniProtKB/TrEMBL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRT;
        MEDLINE=83117629; PubMed=6961398;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Virology 175:69-80(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local Similarity 100.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 KVDDTFYYV 9
                                                                                                                                                                                                                                      NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUCLEOTIDE SEQUENCE.
STRAIN=Brighton Red;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STRAIN=Brighton Red;
Dietrich F.S., Ray O
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      [5]
NUCLEOTIDE SEOUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUCLEOTIDE SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NCBI_TaxID=5085;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q4WIR3_ASPFU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ASPFU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q4WIR3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          datches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q4WIR3
ID Q4
        RRYKER RYKER RRYKER RYKER RRYKER RYKER RRYKER RYKER RRYKER RRYKER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STRAIN=Moscow;
MEDLINE=9815919; PubMed=9495531; DOI=10.1016/S0168-1702(97)00122-6;
Wall E.M., Cao J.X., Chen N., Buller R.M.L., Upton C.;
"A novel poxvirus gene and its human homolog are similar to an E. colilysophospholipase.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STRAIN=MOSCOW;
MEDLINE=20192152; PubMed=10725549; DOI=10.1016/S0168-1702(99)00135-5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                             Ectromelia virus.
Viruses; dsDNA viruses, no RNA stage; Poxviridae; Chordopoxvirinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Viruses; dsDNA viruses, no RNA stage; Poxviridae; Chordopoxvirinae;
Orthopoxvirus.
NCBI _TaxID=10243;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Chen N., Buller R.M., Wall E.M., Upton C.; Mallysis of host response modifier ORPs of ectromelia virus, the causative agent of mousepox."; Virus Res. 66:155-173(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Chen N., Danila M.I., Feng Z., Buller M.L., Wang C., Han X., Lefkowitz E., Upton C.;
Submitted (JUN-2002) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                             Mossman K., Upton C., Buller R.M., McFadden G.;
Species specificity of ectromelia virus and vaccinia virus
interferon-gamma binding proteins.";
Virology 208:762-765(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       100.0%; Score 9; DB 2; Length 150; 100.0%; Pred. No. 0.014; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4DD4FC55F62422BE CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPX
QBQN33_COWPX
QBQN33_COWPX
QBQN33_COWPX
QBQN33_COWPX
QBQN33_COWPX
QBQN33_COWPX
QBQN33_COWPX
QBQN32_COWPX
QBQN3_COWPX
QBQN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EMBL; AF012825; AAM92321.1; -; Genomic DNA.
GO; GO:0016032; P:viral life cycle; IEĀ.
                                                                                                                                                                                                                                                                                                                                                    STRAIN=Moscow;
MEDLINE=95266283; PubMed=7747448;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        InterPro, IPR004967, Pox C7 F8Å. Pera, Pera, Pera, Por C7 F8Å, I. PIRSF 03187, Pox C7 F8Å, I. SEQUENCE 150 AA, 18130 MW; 41
07-FEB-2006, entry version 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Virus Res. 52:157-167(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity 100.
Matches 9; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      74 KVDDTFYYV 82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 KVDDTFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NUCLEOTIDE SEQUENCE.
STRAIN-Brighton Red;
                                                                                                                                                                                                                                                                                                               NUCLEOTIDE SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUCLEOTIDE SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CPXV029 protein.
Name=CPXV029 CDS;
Cowpox virus (CPV)
                                                                                                                                                                                          Orthopoxvirus.
NCBI_TaxID=12643;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STRAIN=Moscow;
                                                                        Name=EVM015;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 13
Q8QN33_COW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ġ
```

ö

Gaps

ö

512 AA.

ઠ 요 Length 150;

```
Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PIR; S75042; S75042.
BioCyc; SSP1148:SLL1608-MONOMER; -.
InterPro; IPR002931; Trngglumase_like.
Pfam; PF01841; Transglut_core; 1.
SMART; SM00460; TGc; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        P73845 SYNY3 PRELIMINARY; PRT;
P73845;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-FBB-1997, sequence version 1. 07-FBB-2006, entry version 26.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QBUUWB_STAHO PRELIMINARY;
                                                                                                                                                                                                                                                            Query Match
Best Local Similarity 100.00
Best Local 7; Conservative
                            Nature 438:1157-1161(2005)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OrderedLocusNames=s111608;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DNA Res. 3:109-136(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Best Local Similarity 100.
Matches 7; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              286 VDDTFYY 292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       39 VDDTFYY 45
                                                                                                                                                                                                                                                                                                                                                                                                                                           VDDTFYY 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      œ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Complete proteome. SEQUENCE 770 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=1148;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2 VDDTFYY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sll1608 protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SYNY3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STAHO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q8VUW8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORF19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 17
                            #88888
#88888
                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SOW REPARED TO THE SOURCE OF T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ŝ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
Bowyer P., Chen D., Collins M., Coulsen R., Davies R., Dyer P.S.,
Parman M., Fedorova N., Fedorova N.D., Feldblyum T.V., Fischer R.,
Posker N., Fraser A., Garcia J.L., Garcia M.J., Goble A.,
Coldman G.H., Gomi K., Griffith-Jones S., Gwilliam R., Haas B.J.,
Haas H., Harris D.E., Horiuchi H., Huang J., Humphray S., Jimenez J.,
Kaller N., Khouri H., Kitamoto K., Kobayashi T., Konzack S.,
Kulkarni R., Kumagai T., Lafton A., Latge J.-P., Li W., Lord A.,
Lu C., Majoros W.H., May G.S., Miller B.L., Mohamoud Y., Molina M.,
Nonod M., Mouyna I., Mulligan S., Murphy L.D., O'Neil S., Paulsen I.,
Penalva M.A., Pertea M., Price C., Pritchard B.L., Quali M.A.,
Rabbinowitsch E., Rawlins N., Rajandream M.A., Reichard U. M.,
Roning C.M., Rutter S., Salzberg S.L., Sanchez M.,
Sanchez-Ferrero J.C., Saunders D., Seeger K., Squares S.,
Takeuchi M., Tekaia F., Turner G., Vazquez de Aldana C.R., Weidman J.,
Mhite O., Woodward J.R., Yu J.-H., Fraser C.M., Galagan J.E., Asai K.,
Machida M., Hall N., Barrell B.G., Denning D.W.;
Mespergilus funigatus.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GO:0016787; F:hydrolase activity; IEA.
GO:0004553; F:hydrolase activity, hydrolyzing O-glycosyl . . .; IEA.
GO:0005975; P:carbohydrate metabolism; IEA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms
Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pubmed=16372010; DOI=10.1038/nature04300;

A Machida M., Asai K., Sano M., Tanaka T., Kumagai T., Terai G.,

Kusumctor K., Arina T., Akita O., Kashiwagi Y., Abe K., Gomi K.,

Horiuchi H., Kitamoto K., Kobayashi T., Takeuchi M., Denning D.W.,

Galagan J.E., Nierman W.C., Yu J., Archer D.B., Bennett J.W.,

A Bhatnagar D., Cleveland T.E., Fedorova N.D., Gotoh O., Horikawa H.,

Hosoyama A., Ichinomiya M., Igarashi R., Iwashita K., Juvadi P.R.,

A Kato M., Kato Y., Kin T., Kokubun A., Maeda H., Maeyama N., Uvvadi P.R.,

A Kato M., Kato Y., Kin T., Rokubun A., Maeda H., Maeyama I.,

Maruyama J., Nagasaki H., Nakajima T., Oda K., Okada K., Paulsen I.,

A Sakamoto K., Sawano T., Takahashi M., Takase K., Terabayashi Y.,

Wortman J.R., Yamada O., Yamagata Y., Anazawa H., Hata Y., Koide Y.,

Kuhara S., Ogasawara N., Kikuchi H.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Aspergillus oryzae.
Sukaryota; Rungi; Ascomycota; Pezizomycotina; Burotiomycetes;
Burotiales; Trichocomaceae; mitosporic Trichocomaceae; Aspergillus.
NCBI TaxID=5062;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -1- CAUTION: The sequence shown here is derived from an EMBL/GenBank/DDBJ whole genome shotgun (WGS) entry which is preliminary data.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              77.8%; Score 7; DB 2; Length 512; 100.0%; Pred. No. 7.5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  'Genome sequencing and analysis of Aspergillus oryzae.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Complete proteome; Hydrolase.
SEQUENCE 512 Aa; 55648 MW; 5E174A037C55B830 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL; AAHF01000008; BAL87192.1; -; Genomic_DNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      24-JAN-2006, integrated into UniProtKB/TrEWBL. 24-JAN-2006, sequence version 1. 07-MAR-2006, entry version 3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    515 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         100.0%; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 ASPOR
QZUTD1_ASPOR PRELIMINARY; PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Nature 438:1151-1156(2005).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local Similarity 100.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Beta-xylosidase.
ORFNames=A0090701000886;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUCLEOTIDE SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  26 VDDTFYY 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2 VDDTFYY 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STRAIN=RIB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 15
Q2U7D1 ASP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      88
              SO CCC CCC CCC THE TANK TO THE TANK TO THE TO THE TANK TO THE TANK TO THE TO THE TANK TO T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              a
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Okumura S.,
                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
MEDLINE=97061201; PubMed=8995231; DO1=10.10931/dnares/3.3.109;
KADAKO T., Sato S., Kotani H., Tanaka A., Asamizu E., Nakamura Y.,
Miyajima N., Hirosawa M., Sugiura M., Sasamoto S., Kimura T.,
Hosouchi T., Matsuno A., Muraki A., Nakazaki N., Naruo K., Okumura S.
Shimpo S., Takeuchi C., Wada T., Watanabe A., Yamada M., Yasuda M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Sequence analysis of the genome of the unicellular cyanobacterium Synechocystis sp. strain PCC6803. II. Sequence determination of the entire genome and assignment of potential protein-coding regions.";
                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                               Length 515;
                                                                                                                                                                                                                                                                                                                         0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 770;
EMBL; AP007164; BAE62534.1; -; Genomic DNA.
SEQUENCE 515 AA; 56635 MW; 3EDFD2B09FF52176 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  770 AA; 87815 MW; F58C2EA34EC8873C CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Synechocystis sp. (strain PCC 6803).
Bacteria; Cyanobacteria; Chroococcales; Synechocystis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Staphylococcus hominis.
Bacteria, Firmicutes, Bacillales, Staphylococcus.
                                                                                                                                                                                         DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-FEB-1997, integrated into UniProtKB/TrEMBL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-MAR-2002, integrated into UniProtKB/TrEMBL. 01-MAR-2002, sequence version 1. 07-FEB-2006, entry version 9.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    103 AA.
                                                                                                                                                                                  77.8%; Score 7; DB 2
100.0%; Pred. No. 7.6
:ive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            77.8%; Score 7; DB 2
100.0%; Pred. No. 10;
ive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL; BA000022; BAA17904.1; -; Genomic_DNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 08 VOW8 68 VOW 8 V
```

```
Hypothetical protein.
ORFNames=CaO19.2181, CaO19.9727;
Candida albicans SC5314.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              117 VDĎŤFÝ 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
                                                                                                                                               NCBI_TaxID=237561;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=4841;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2 VDDTFY
                                                                                                                                                                                                                                           STRAIN-SC5314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RAS3_RHIRA
P22280;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RAS3_RHIRA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                          Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                         DOI=10.1128/JB.185.9.2711-2722.2003;
Katayama Y., Takeuchi F., Ito T., Ma X.X., Ui-Mizutani Y.,
Kobayashi I., Hiramatsu K.;
"Identification in methicillin-susceptible Staphylococcus hominis of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                              an active primordial mobile genetic element for the staphylococcal cassette chromosome mec of methicillin-resistant Staphylococcus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NUCLEOTIDE SEQUENCE.
MEDLINE=95111629; PubMed=7812447;
Schouler C., Ehrlich S.D., Chopin M.C.;
"Sequence and organization of the lactococcal prolate-headed bIL67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-NOV-1996, sequence version 1.
07-FEB-2006, entry version 16.
07-FEB-2006, entry version 16.
Dar polymerase subunit.
Lactococcus phage bIL67.
Viruses; deDNA viruses, no RNA stage; Caudovirales; Siphoviridae; c2-like viruses.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 103;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            66.7%; Score 6; DB 2; Length 126;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL; AB063171; BAB83490.1; -; Genomic_DNA.
InterPro; IPR009303; DUF960_STA_spp.
Pfam; PF06124; DUF960; 1.
SEQUENCE 103 AA; 12599 MW; 13194326CCE4617D CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EMBL; L33769; AAA74342.1; -; Genomic DNA.
SEQUENCE 126 AA; 14843 MW; 1768C9622ED7749B CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-NOV-1996, integrated into UniProtKB/TrEMBL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     26-APR-2005, integrated into UniProtKB/TrEMBL.
26-APR-2005, sequence version 1.
07-FEB-2006, entry version 7.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             66.7%; Score 6; DB 2;
100.0%; Pred. No. 30;
tive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 126 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100.0%; Pred. No. 35; ive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          176 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8 9CAUD
Q38248 9CAUD PRELIMINARY; PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRELIMINARY; PRT;
                                                                                                                 MEDLINE=22586405; PubMed=12700250;

    J. Bacteriol. 185:2711-2722 (2003).

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        phage genome.";
Microbiology 140:3061-3069(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity 100...
6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity 100.
nes 6; Conservative
                                                          NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100 KVDDTF 105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     91 DTFYYV 96
                                                                                     STRAIN=GIFU12263;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4 DTFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 KVDDTF 6
NCBI_TaxID=1290;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TS_CANAL
QSA2TS_CANAL
QSA2TS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 18
038248 9CA
10 03824
AC 03824
AC 03824
DT 01-NC
DT 01-NC
DT 07-FI
DE DNA 1
OC VITU
OC C2-1
OC NCBI
RR MEDI
RR MEDI
RR SCH
RT PAS
RT P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q5A2T5
ID Q5
AC Q5
DT 26
DT 26
OX
RRYKY
RYKY
RY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
```

```
Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms
Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms
Distributed under the Creative Commons Attribution-Noberivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GDP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRAIN=ATCC 1216B;
MEDLINE=91061774; PubMed=1701021;
Casale W.L., McConnell D.G., Wang S.-Y., Lee Y.-J., Linz J.E.;
Casale W.L., McConnell D.G., Wang S.-Y., Lee Y.-J., Linz J.E.;
Which exhibits striking similarity to human ras genes.";
Mol. Cell. Biol. 10:6654-6631(1990).
-!- ENZYME REGULATION: Alternate between an inactive form bound to GD and an active form bound to GTP. Activated by a guanine nucleotide-exchange factor (GEF) and inactivated by a GTPase-activating protein (GAP).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             germling and yeast.
-!- SIMILARITY: Belongs to the small GTPase superfamily. Ras family.
                                                                                                                                                                                                                                                     Jones T., Federspiel N.A., Chibana H., Dungan J., Kalman S., Magee B.B., Newport G., Thorstenson Y.R., Agabian N., Magee P.T., Davis R.W., Scherer S., "The diploid genome sequence of Candida albicans."; Proc. Natl. Acad. Sci. U.S., 101:7329-7334(2004).

-!- CAUTION: The sequence shown here is derived from an EMBL/GenBank/DDBJ whole genome shotgun (WGS) entry which is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Rhizomucor racemosus (Mucor circinelloides f. lusitanicus).
Eukaryota; Fungi; Zygomycota; Zygomycetes; Mucorales; Mucoraceae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -!- SUBCELLUTAR LOCATION: Cell membrane; lipid-anchor.
Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;
Saccharomycetales; mitosporic Saccharomycetales; Candida.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    66.7%; Score 6; DB 2; Length 176; 100.0%; Pred. No. 45; o; Indels ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Hypothetical protein.
SEQUENCE 176 AA; 19448 MW; D04B9BE79CA86853 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-AUG-1991, integrated into UniProtKB/Swiss-Prot.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL; AACQ01000075; EAK97013.1; -; Genomic_DNA.
EMBL; AACQ01000076; EAK96954.1; -; Genomic_DNA.
                                                                                                                                          NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA]
                                                                                                                                                                                                                      PubMed=15123810; DOI=10.1073/pnas.0401648101;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      205 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL; MSS177; AAA83379.1; -; Genomic_DNA.
PIR; C36365; C36365.
PIRSP: PO1112; IPLL.
INCEPPO; IPRO03579; GTPASS_RAD.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NUCLEOTIDE SEQUENCE [GENOMIC DNA].
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-AUG-1991, sequence version 1.
OT-MAR-2006, entry version 37.
Ras-like protein 3.
Name-RAS3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  preliminary data.
```

ô

ઠે 셤

```
Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                     ENSANGP00000029666.

ORFNames=ENSANGG0000022851;
Anopheles gambiae str. PEST.
Bukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
Bukaryota; Medopterrygota; Diptera; Nematocera; Culicoidea;
Anophelinae; Anopheles.
NCBI_TaxID=180454;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Lin X., Kaul S., Town C.D., Benito M., Creasy T.H., Haas B.J., Wu D., Maitl R., Roming C.M., Koo H., Fujli C.Y., Utterback T.R., Barnstead M.B., Bowman C.L., White O., Nierman W.C., Fraser C.M.; Submitted (OCT-1999) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota, Viridiplantae, Streptophyta, Embryophyta, Tracheophyta, Spermatophyta, Magnoliophyta, eudicotyledons, core eudicotyledons, rosids, eurosids II, Brassicales, Brassicaceae, Arabidopsis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL; AAAB01008962; EAL39783.1; -; Genomic_DNA.
GO; GO:0005515; F:protein binding; IEA.
GO; GO:0008270; F:zinc ion binding; IEA.
GO; GO:0006155; P:regulation of transcription, DNA-dependent; IEA.
InterPro; IPR01965; Znf_PHD.
InterPro; IPR01965; Znf_PHD.
SMART; SN00249; PHD; 1.
PROSITE; PS01359; ZF_PHD 1; UNKNOWN_1.
PROSITE; PS01016; ZF_PHD_2; 1.
SEQUENCE 232 AA; Z5290 MW; 78A98241F2283718 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The Anopheles gambiae Sequence Committee, Submitted (APR-2004) to the EMBL/GenBank/DDBJ databases.
-!- CAUTION: The sequence shown here is derived from an EMBL/GenBank/DDBJ whole genome shotgun (WGS) entry which is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 232;
                                                                                                                                                                                                                                                                                                                                                                            The Anopheles gambiae Sequence Committee, "Anopheles gambiae re-annotation."; Submitted (APR-2002) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Town C.D., Kaul S.;
Submitted (JAN-2001) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Shinn P., Chen H., Cheuk R., Kim C.J., Ecker J.R.; "Arabidopsis cDNA clones.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-JUN-2001, integrated into UniProtKB/TrEMBL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-JUN-2001, sequence version 1.
07-FEB-2006, entry version 25.
Hypothetical protein Fl3M14.33 (At3g10400).
Name=Fl3M14.33; OrderediocusNames=At3g10400;
Arabidopsis thaliana (Mouse-ear cress).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             57;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     66.7%; Score 6; DB 2
100.0%; Pred. No. 57;
ive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         66.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   preliminary data
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      [2]
NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        [2]
NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                              SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 16 VDĎTFY 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VDDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=3702;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q9CAE4 ARATH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRAIN-PEST;
                                                                                                                                                                                                                                                                                                                                           STRAIN=PEST;
                                                                                                                                                                                                                                                                                                              NUCLEOTIDE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 23
Q9CAE4 ARA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                             SO DE RESERVA DE RESER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        HERE TO BE THE STATE OF THE STA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                             /FTIG=PRO 0000082681.
GTP (By similarity).
GTP (By similarity).
GTP (By similarity).
Effector region (Probable).
S-farnesyl cysteine (By similarity).
Why. DBF086466F090P50 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WUCLECTIDE SEQUENCE.
MEDLINE=21927629; PubMed=11929996; DOI=10.1073/pnas.062552299; Labas Y.A., Gurskya N.G., Yanushevich Y.G., Fradkov A.F., Lukyanov S.A., Marz M.V.; Lukyanov K.A., Lukyanov S.A., Marz M.V., "Diversity and evolution of the green fluorescent protein family."; Proc. Natl. Acad. Sci. U.S.A. 99:4256-4261(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
InterPro; IPR003577; GTPase Ras.
InterPro; IPR003578; GTPase_Rho.
InterPro; IPR003505; Small_GTP_bd.
InterPro; IPR002025; Small_GTP_bd.
Pfam; PP00071; Ras; 1.
SMRINTS; PR00449; RASTRNSFRANG.
SMART; SM00173; RAS; 1.
TIGRFAMs; TIGRPO321; Small_GTP; 1.
TIGRFAMs; TIGRO0231; Small_GTP; 1.
TIGRFAMs; ITGRO0231; Small_GTP; 1.
TIGRFAMs; TIGROFACEIN; Nucleotide-binding; Prenylation.
CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 205;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GO; GO:0008218; P:bioluminescence; IEA.
InterPro; IPR011584; GFP_related.
Pfam; PF01353; GFP; 1.
SEQUENCE 231 AA; 26014 MW; 2ACA356695B42B7E CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-JUN-2002, integrated into UniProtKB/TrEMBL.
01-JUN-2002, sequence version 1.
07-FEB-2006, entry version 13.
Green fluorescent protein-like protein.
Ricordea florida (Soft coral).
Eukaryota; Metazoa; Chidaria; Anthozoa; Hexacorallia;
Corallimorpharia; Ricordeidae; Ricordea.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 2;
5. 56;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ANOGA
QFTQR6_ANOGA PRELIMINARY; PRT; 232 AA.
QFTQR6;
07-DEC-2004, integrated into UniProtKB/TrEMBL.
07-DEC-2004, sequence version 1.
07-FEB-2006, entry version 8.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pred. No. 51;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        66.7%; Score 6; 1100.0%; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  66.7%; Score 6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL; AY037772; AAK71338.1; -; mRNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    23408 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          100.08;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local Similarity 100.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                     16
63
122
38
202
205 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    159 VDDTPY 164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DIFYYV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Best Local Similarity
Matches 6; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2 VDDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NCBI_TaxID=165100;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q9U6YB; 1GGX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4 DTFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Qerses RICFL
Qerses;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        115
                                                                                                                                                                                                                                                                                                                                                                                                  NP_BIND
NP_BIND
NP_BIND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MOTIF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 22
```

SO CCC CCC REPRENTED DESTROY OF THE PROPERTY O

ઠે

ö

```
6; Conservative
                                                                 2 VDDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 KVDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  fluorescens Pf-5.
                                                                                                                                                                                                                                                                            Q4K6AB_PSEF5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches

      SA
      10
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0
      0

                                                                 ઠે
                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                    Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Fricke W.F., Seedorf H., Henne A., Kruer M., Liesegang H.,
Hedderich R., Gottschalk G., Thader R.K.;
"The Genome Sequence of Methanosphaera stadtmanae Reveals Why This
Human Intestinal Archaeon Is Restricted to Methanol and H2 for Methane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Archaea, Euryarchaeota, Methanobacteria, Methanobacteriales, Methanobacteriaceae, Methanosphaera.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 66.7%; Score 6; DB 2; Length 261;
100.0%; Pred. No. 62;
ive 0; Mismatches 0; Indels
                                                     NUCLECTIDE SEQUENCE.
Kim C.J., Chen H., Shinn P., Ecker J.R.;
Kan C.J. arabidopsis ORF clones.";
Submitted (MAR-2005) to the EMBL/GenBank/DDBJ databases.
Submitted (OCT-2004) to the EMBL/GenBank/DDBJ databases,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PROSITE, PS50102; REM; 1.
PROSITE; PS50158; ZF CCHC; 1.
Hypothetical protein; Metal-binding; Zinc; Zinc-finger.
SEQUENCE 261 AA; 29367 WW; 4A37767C92819D22 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL; CP000102; ABC57774.1; -; Genomic DNA.
SEQUENCE 298 AA; 33234 MW; FFE70D402A75C4C8 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PubMed=16385054; DOI=10.1128/JB.188.2.642-658.2006;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          07-FEB-2006, integrated into UniProtKB/TrEMBL. 07-FEB-2006, sequence version 1. 07-FEB-2006, entry version 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                 GO; GO:0046872; F:metal ion binding; IEA.
GO; GO:0003676; F:mucleic acid binding; IEA.
GO; GO:0000166; F:mucleotide binding; IEA.
GO; GO:0008270; F:zinc ion binding; IEA.
InterPro; IPR012677; a b plait nuc_bd.
InterPro; IPR001678; X b plait nuc_bd.
InterPro; IPR001878; Znf_CCHC.
                                                                                                                                                                                                                                                                                              EMBL; AC011560; AAG51392.1; -; Genomic_DNA.
EMBL; BT015938; AAV31168.1; -; mRNA.
EMBL; BT021922; AAX49371.1; -; mRNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     298 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QZNEH9_9EURY PRELIMINARY; PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Name=cofD; ORFNames=Msp_1403;
Methanosphaera stadtmanae DSM 3091.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Formation and ATP Synthesis.";
J. Bacteriol. 188:642-658(2006).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pfam; PF00076; RRM 1, 1.
Pfam; PF00089; zf-CCHC; 1.
PRINTS: PR00989; CZHCZNFINGER.
SMART; SM00360; RRM; 1.
SMART; SM00343; ZnF_CZHC; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUCLEOTIDE SEQUENCE.
STRAIN=DSM 3091;
                                                                                                                                                                                                                                                                                                                                                                                      HSSP; 008583; 1N08.
TAIR; At3g10400; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  14 DDTFYY 19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=339860;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3 DDTFYY 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9EURY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 24
020NEH9 9EU
10 020NEH
07 NEH
07 PF
08 Netha
08 Netah

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
ò
```

DB 2; Length 298;

66.7%; Score 6; DB 2 100.0%; Pred. No. 69;

Query Match Best Local Similarity

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms
Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PUBMEd=15980861; DOI=10.1038/nbt1110; PubMed=15980861; DOI=10.1038/nbt1110; PubMed=15980861; DOI=10.1038/nbt1110; Paulsen I.T., Press C.M., Ravel J., Kabayashi D.Y., Myers G.S.A., Mavrodi D.V., DeBoy R.T., Seshadri R., Ren Q., Madupu R., Dodson R.J., Durkin A.S., Brinkac L.M., Daugherty S.C., Sullivan S.A., Myers G.S.A., Meldman J., Watkins K., Tran K., Khouri H., Pierson E.A., Pierson L.S. III, Thomashow L.S., Loper J.B.; Complete genome sequence of the plant commensal Pseudomonas
Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Erwinia carotovora subsp. atroseptica (Pectobacterium atrosepticum).
Bacteria, Proteobacteria, Gammaproteobacteria, Enterobacteriales;
Enterobacteriaceae, Pectobacterium.
NCBI_TaxID=29471;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EMBL; CP000076; AAY94368.1; -; Genomic_DNA.
GO; GO:0005622; C:intracellular; IEA.
GO; GO:0003700; F:transcription factor activity; IEA.
GO; GO:0006355; P:regulation of transcription, DNA-dependent; IEA.
InterPro; IPR000551; HTH_MerR.
PFam; PF00376; MerR; 1.
PROSITE; PS50937; HTH_MERR; 1.
COMplete proteome; DNA-binding.
SEQUENCE 311 AA; 34959 MW; AE8C46F939674EFF CRC64;
                                                                                                                                                                                                                                                                                                                                                        OrderedLocusNames=FFL_5146;
Pseudomonas fluorescens (strain Pf-5 / ATCC BAA-477).
Bacteria; Proteobacteria; Gammaproteobacteria; Pseudomonadales;
Pseudomonadaceae; Pseudomonas.
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 311;
Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0; Indels
;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
STRAIN-SCRI 1043 / ATCC BAA-672;
PubMed=15263089; DOI=10.1073/pnas.0402424101;
                                                                                                                                                                                                                                Q4K6A8;
02-AUG-2005, integrated into UniProtKB/TrEMBL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 66.7%; Score 6; DB 2;
100.0%; Pred. No. 71;
ive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     16-AUG-2004, integrated into UniProtKB/TrEMBL
                                                                                                                                                                                                                 311 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        330 AA
Mismatches
                                                                                                                                                                                                                                                                                                                                  Transcriptional regulator, MerR family.
                                                                                                                                                                                                               PRELIMINARY; PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QEDBO7 ERWCT PRELIMINARY; PRT; QEDBO7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Nat. Biotechnol. 23:873-878(2005).
                                                                                                                                                                                                                                                                                02-AUG-2005, sequence version 1. 07-FEB-2006, entry version 8.
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           16-AUG-2004, sequence version 07-FEB-2006, entry version 8. Putative membrane protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    OrderedLocusNames=ECA0095;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                122 KVDĎTP 127
                                                                                                                                                                                                                                                                                                                                                                                                                                                  NCBI_TaxID=220664;
                                                                          |||||||
68 VDDTFY 73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local Similarity
```

. :

οŧ

us-10-764-985-2.oli.rup

```
Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PubMed=15467720; DOI=10.1038/rg1447;
Cazalet C., Rusniok C., Brueggemann H., Zidane N., Magnier A., Ma I Tichit M., Jarraud S., Buchier C., Vandenesch F., Kunst F., Etienne J., Glaser P., Buchrieser C.;
Etienne J., Glaser P., Buchrieser C.;
"Evidence in the Legionella pneumophila genome for exploitation of host cell functions and high genome plasticity.";
Nat. Genet. 36:1165-1173 (2004).
                                                                                                                                                                               PubMed=15467720; DOI=10.1038/ng1447;
Cazalet C., Rusnick C., Buregemann H., Zidane N., Magnier A., Ma
Tichit M., Jarraud S., Bouchier C., Vandenesch F., Kunst F.,
Etienne J., Glaser P., Buchrieser C.,
"Evidence in the Legionella pneumophila genome for exploitation of host cell functions and high genome plasticity.";
Nat. Genet. 36:1165-1133(2004)
                             Name-trpB; OrderedLocusNames=lpl1267;
Legionella pneumophila (strain Lens).
Bacteria; Proteobacteria; Gammaproteobacteria; Legionellales;
Legionellaceae; Legionella.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 23-NOV-2004, integrated into UniProtKB/TrEMBL.
23-NOV-2004, sequence version 1.
07-FEB-2006, entry version 1.
Tryptophan synthase beta subunit.
Name=trpB; OrderedLocusNames=lpp1268;
Legionalla protmophila (strain Paris).
Bacteria; Proteobacteria; Gammaproteobacteria; Legionellales;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 399;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL; CR628337; CAH15507.1; -; Genomic_DNA.
LegioList; lpl1267; -
CO; GO:0003824; F:catalytic activity; IEA.
GO; GO:0004835; F:tryptophan synthase activity; IEA.
GO; GO:0004815; F:tryptophan synthase activity; IEA.
GO; GO:000568; F:tryptophan metabolism; IEA.
InterPro; IPR001926; B6 enzyme beta.
InterPro; IPR006653; Trp_synth_bral.
InterPro; IPR006654; Trp_synth_beta.
Pfam; PF00291; PALP; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TIGRFAMS; TIGR00263; trpB; 1.
PROSITE; PS00168; TRP SYNTHASE BETA; 1.
Complete proteome; Pyridoxal phosphate.
SEQUENCE 399 AA; 43301 MW; 25720A677000BAA0 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL, CR628336; CAH12419.1; -; Genomic_DNA.
LegioList, 1pp1268; -.
GO; GO:0003824; F:catalytic activity; IEA.
GO; GO:0004834; F:tryptophan synthase activity; IEA.
                                                                                                                                                               NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          87;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      66.7%; Score 6; DB 2
100.0%; Pred. No. 87;
ive 0; Mismatches
               Tryptophan synthase beta subunit.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        66.78;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local Similarity 100.
nes 6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ||||||
186 VDDTFY 191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2 VDDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID=297246;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QSXSQ2 LEGPA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 29
Q5X5Q2 LEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                      EMBL; BX950851; CAG73015.1; -; Genomic_DNA.

GO; GO:0016747; F:transferase activity, transferring groups o. . .; IEA.
InterPror; IPR002656; Acyl_transf_3.
Pfam; PF01757; Acyl_transf_3; 1.

Complete protecome.
                                                                                                                                                                                                                                       Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
Bell K.S., Sebaihia M., Pritchard L., Holden M.T.G., Hyman L.J., Holeva M.C., Thomson N.R., Bentley S.D., Churcher L.J.C., Mungall K., Atkin R., Bason N., Brooks K., Chillingworth T., Clark K., Doggett J., Fraser A., Hance Z., Hauser H., Jagels K., Moule S., Norbertczak H., Ormond D., Price C., Quail M.A., Sanders M., Walker D., Whitehead S., Salmond G.P.C., Birch P.R.J., Parkhill J., Toth I.K., "Genome sequence of the enterobacterial phytopathogen Erwinia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
Takaki Y., Kageyama Y., Shimamura S., Suzuki H., Nishi S., Hatada Y.,
Kawai S., Ito S., Horikoshi K.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "The complete genome sequence of the alkaliphilic Bacillus clausii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 330;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 376;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Bacillus clausii (strain KSM-K16).
Bacteria; Firmicutes; Bacillales; Bacillaceae; Bacillus.
NCBI_TaxID=66692;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Submitted (OCT-2003) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EMBL; AP006627; BAD66023.1; -; Genomic_DNA.
Complete proteome; Hypothetical protein.
SEQUENCE 376 AA; 42123 MW; FC8A63EA03CD4362 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                    330 AA; 36965 MW; D8F8B183D34D1D09 CRC64;
                                                                                                                                                                                                 Proc. Natl. Acad. Sci. U.S.A. 101:11105-11110(2004).
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 6; DB 2;
Pred. No. 75;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 23-NOV-2004, integrated into UniProtKB/TrEMBL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    66.7%; Score 6; DB 2;
100.0%; Pred. No. 83;
iive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       23-NOV-2004, integrated into UniProtKB/TrEMBL. 23-NOV-2004, sequence version 1. 07-FEB-2006, entry version 14.
                                                                                                                                                                                                                                                                                                                                                                                                                                               66.7%; Scor.
100.0%; Pred. No. ...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRT; 376 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                399 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRELIMINARY; PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   23-NOV-2004, sequence version 1. 07-FEB-2006, entry version 8. Hypothetical protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    OrderedLocusNames=ABC3490;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity 100.
                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
6; Conserv?
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  172 VDDTFY 177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             179 DTFÝÝV 184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DIFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  87 BACSK
QSWC87 BACSK
QSWC87;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QSWX32_LEGPL
QSWX32;
                                                                                                                                                                               factors.'
                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
```

RESULT 27

ð g **KSM-K16**

OSWX32 LEGPL

RESULT 28

Best Loc Matches

8 셤

ö

Сарв

ö

ä

```
22-AUG-2003,
                                                                                       TRPB NEIGO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TRPB NEIMA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BINDING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 32
TRPB NEIMA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                          Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].

PubMed=15448271; DOI=10.1126/science.1099776;

Chien M., Morzova I., Shi S., Sheng H., Chen J., Gomez S.M.,

Asamani G., Hill K., Nuara J., Feder M., Rineer J., Greenberg J.J.,

Steshenko V., Park S.H., Zhao B., Teplitskaya E., Edwards J.R.,

Pampou S., Georghiou A., Chou I.-C., Iannuccilli W., Ulz M.E.,

Kim D.H., Geringer-Sameth A., Goldsberry C., Morozov P., Fischer S.G.,

Segal G., Qu X., Rzhetsky A., Zhang P., Cayanis E., De Jong P.J.,

Ju J., Kalachikov S., Shuman H.A., Russo J.J.;

"The genomic sequence of the accidental pathogen Legionella
                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              07-FEB-2006, entry version 13.
Tryptophan synthetase, beta subunit (EC 4.2.1.20).
OrderedLocusNames=lpg1304;
Legionella pneumophila subsp. pneumophila (strain Philadelphia 1 /
                                                                                                                                                                                                                                                                                                                           .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Bacteria; Proteobacteria; Gammaproteobacteria; Legionellales;
Legionellaceae; Legionella.
NCBI_TaxID=272624;
                                                                                                                                                                                                                                                                            Length 399;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 2; Length 399;
                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0; Indels
GO; GO:0008152; P:metabolism; IEA.
GO; GO:0006568; P:tryptophan metabolism; IEA.
InterPro; IPR001926; B6 enzyme beta.
InterPro; IPR006653; Try_synth_b_rel.
InterPro; IPR006654; Try_synth_beta.
Pfam; PF00291; PALP; 1.
IGRAMS; TIGR0263; trpB; 1.
PROSITE; PS00168; TRP_SYNTHASE_BETA; 1.
Complete proteome; Pyridoxal phosphate.
SEQUENCE 399 AA; 43301 MW; 25720A677000BAA0 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TIGRFAMS; TIGRO0263; trpB; 1.
PROSITE; PS00168; TR SYNTHASE BETA; 1.
Complete protecome: Lyaes; Pyridoxal phosphate.
SEQUENCE 399 AA; 43300 MW; ESBFCBBLA797EE32 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL; AE017354; AAU27387.1; -; Genomic_DNA.
GO; GO:0016629; F:1yase activity; IEA.
GO; GO:00046334; F:ryptophan synthase activity; IEA.
GO; GO:0008152; F:ryptophan metabolism; IEA.
GO; GO:0008152; F:rryptophan metabolism; IEA.
InterPro; IFR001926; B-cryme_beta.
InterPro; IFR001926; B-cryme_beta.
InterPro; IFR00653; Trp_synth_b rel.
InterPro; IFR00653; Trp_synth_beta.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    23-NOV-2004, integrated into UniProtKB/TrEMBL. 23-NOV-2004, sequence version 1.
                                                                                                                                                                                                                                                                     66.7%; Score 6; DB 2;
100.0%; Pred. No. 87;
iive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          399 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            66.7%; Score 6; DB 2
100.0%; Pred. No. 87;
Live 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Science 305:1966-1968(2004).
                                                                                                                                                                                                                                                                                                                           6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pfam; PF00291; PALP; 1
                                                                                                                                                                                                                                                                                                                                                                                                                     186 VDDTFY 191
                                                                                                                                                                                                                                                                                             Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
Matches 6; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        186 VDDŤŘÝ 191
                                                                                                                                                                                                                                                                                                                                                                      2 VDDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2 VDDTFY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QSZVY4 LEGPH
QSZVY4;
                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                      Matches
       ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DER PRESENTATION OF THE PROPERTY OF THE PROPER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
```

```
Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Tryptophan synthase beta chain.
/FTId=PRO_0000098971.
Pyridoxal_phosphate (covalent) (By
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                        Bacteria, Proteobacteria, Betaproteobacteria, Neisseriales,
Neisseriaceae, Neisseria.
NCBI_TaxID=485,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Tryptophan synthase beta chain (BC 4.2.1.20).
Mame=trpB OrderedicocusNames=NAM5904;
Neisseria meningitidis serogroup A.
Bacteria, Proteobacteria, Betaproteobacteria, Neisseriales;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3765C02F97627ACA CRC64;
                              integrated into UniProtXB/Swiss-Prot.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 19-OCT-2002, integrated into UniProtKB/Swiss-Prot.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                66.7%; Score 6; DB 1;
100.0%; Pred. No. 87;
iive 0; Mismatches
                                              01-JUN-2003, sequence version 1.
07-FEB-2006, entry version 16.
Tryptophan synthase beta chain (EC 4.2.1.20)
 400 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                              -! - SIMILARITY: Belongs to the trpB family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL; AY165022; AAN65176.1; -; Genomic_DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HAMAP; MF 00133; -; 1.
InterPro; IPR001926; B6 enzyme beta.
InterPro; IPR00653; Trp_synth_b_rel.
InterPro; IPR006654; Trp_synth_beta.
 PRT;
                                                                                                                                                                                              NUCLEOTIDE SEQUENCE [GENOMIC DNA].
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-OCT-2000, sequence version 1. 07-MAR-2006, entry version 28.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   400 AA; 43549 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Neisseriaceae; Neisseria.
NCBI_TaxID=65699;
STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STANDARD;
                                                                                                                 Neisseria gonorrhoeae.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   P00933; 2WSY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ||||||
186 VDDTFY 191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2 VDDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                              similarity).
```

```
Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms
Distributed under the Creative Commons Attribution-NoDerivs License
                Tettelin H., Saunders N.J., Heidelberg J.F., Jeffries A.C., Nelson K.E., Eisen J.A., Ketchum K.A., Hood D.W., Peden J.F., Dodson R.J., Nelson W.C., Gwinn M.L., DeBoy R.T., Peterson J.D., Hickey E.K., Haft D.H., Salzberg S.L., White O., Fleischmann R.D., Dougherty B.A., Mason T.M., Ciecko A., Parksey D.S., Blair E., Citcone H., Clark E.B., Cotton M.D., Utterback T.R., Khouri H.M., Oin H., Vamathevan J.J., Gill J., Scarlato V., Masignani V., Pizza M., Venter J.C.,
                                                                                                                                                                                                                      "Complete genome sequence of Neisseria meningitidis serogroup B strain
                                                                                                                                                                                                                                                                           -I-FUNCTION: The beta subunit is responsible for the synthesis of Litytophan from indole and L-serine.
-I-CATALYTIC ACTIVITY: L-serine +1-(CATALYTIC ACTIVITY: L-tryptophan biosynthesis; L-I-Tryptophan from chorismate: step 5 [final step].
-I-SUBUNIT: Tetramer of two alpha and two beta chains (By
MEDLINE=20175755; PubMed=10710307; DOI=10.1126/science.287.5459.1809;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Tryptophan synthase beta chain.
/FTId=PRO_0000098973.
Pyridoxal_phosphate (covalent) (By
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Neisseria gonorrhoeae (strain ATCC 700825 / FA 1090).
Bacteria; Proteobacteria; Betaproteobacteria; Neisseriales;
Neisseriaceae; Neisseria.
NCBI_TaxID=242231;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Amino-acid biosynthesīs; Aromaīic amino acid biosynthesis;
Complete proteome; Lyase; Pyridoxal phosphate;
Tryptophan biosynthesis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 400;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   86FCC42EF6F64210 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             [1]
NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QSF9W3;
15-WAR-2005, integrated into UniProtKB/TrEMBL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               400 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -!- SIMILARITY: Belongs to the trpB family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Putative tryptophan synthase (EC 4.2.1.20).
OrderedLocusNames=NGO0274;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          66.7%; Score 6; DB 1
100.0%; Pred. No. 87;
tive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL; AE002098; AAF41116.1; -; Genomic_DNA PIR; B81169; B81169.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 similarity)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SYNTHASE BETA; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HAMAP; MP 00133; -; 1. Interpret Pro; IPRO01926; BE enzyme beta. InterPro; IPRO06653; Trp_synth_brel. InterPro; IPRO06654; Trp_synth_beta. Pfam; PF00291; PALP; 1. Programs; TIGROMS; TIGROMS; TIGROMS; TIGROMS; TIGROMS; TIGROMS; TIGROMS; TRP_SYNTHASE_BETA; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GenomeReviews; AE002098_GR; NMB0699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BioCyc; NMEN491:NMB0699-MONOMER; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           15-MAR-2005, sequence version 1. 07-FEB-2006, entry version 8.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     400 AA; 43209 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRELIMINARY;
                                                                                                                                                                                                                                           MC58.";
Science 287:1809-1815(2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     186 VDDTFY 191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               P00933; 2WSY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2 VDDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  similarity)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IIGR; NMB0699;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QSF9W3 NEIG1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BINDING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NEIG1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HSSP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 34
QSF9W3 NEID
QSF9W
AC
QSF9W
DT 15-MA
DT 15-MA
DT 07-FE
DE Putat
GN Order
GN Neiss
OC Neiss
OX NCBI
RN (1)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                       -:-FUNCTION: The beta subunit is responsible for the synthesis of L-tryptoplan from indole and L-serine.
-:-CATALYTIC ACTIVITY: L-serine + 1- (indol-3-yl) glycerol 3-phosphate = L-tryptophan + glyceraldehyde 3-phosphate.
-:-COPACTOR: Pyridoxal phosphate (By similarity).
-:-PATHMAY: Amino-acid biosynthesis; L-tryptophan from chorismate: step 5 [final step].
-:-SUBUNIT: Tetramer of two alpha and two beta chains (By
                           MEDINE-22491 / Serogroup A / Serotype 4A, MEDINE-222556; PubMed-10761919; DOI=10.1038/35006655; MEDINE-2022556; PubMed-10761919; DOI=10.1038/35006655; Rackhill J., Achtman M., James K.D., Eberley S.D., Churcher C.M., Rate S.R., Morelli G., Baaham D., Brown D., Chillingworth T., Davies R.M., Davis P., Devlin K., Feltwell T., Hamlin N., Holroyd S., Jagels K., Leather S., Moule S., Mungall R.L., Quail M.A., Whitehead S., Spratt B.G., Barrell B.G., Simmonds M., Skelton J., Whitehead S., Spratt B.G., Barrell B.G.; Asiain of Neisseria meningitidis 22491.";

Nature 404:502-506(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Tryptophan synthase beta chain. /FTId=PRO_0000098972. Pyridoxal phosphate (covalent)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Neisseria meningitidis serogroup B. Batteria, Neisseriales, Batteria, Proteobacteria, Betaproteobacteria, Neisseriaceae, Neisseria.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TIGRFAMS; TIGRO0263; trpB; 1.
PROSITE; PS00168; TRP SYNTHASE BETA; 1.
Anino-acid biosynthesIs; Aromatic amino acid biosynthesis;
Complete proteome; Lyase; Pyridoxal phosphate;
Tryptophan biosynthesis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   66.7%; Score 6; DB 1; Length 400;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          43193 MW; 82001AE125A99F80 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           19-OCT-2002, integrated into UniProtKB/Swiss-Prot.
             NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
STRAIN-MC58 / Serogroup B;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Tryptophan synthase beta chain (EC 4.2.1.20)
Name=trpB; OrderedLocusNames=NMB0699;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -!- SIMILARITY: Belongs to the trpB family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               87;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL; AL162754; CAB84181.1; -; Genomic_DNA.
PIR; H81936; H81936.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       similarity)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HAMAP; MF 00133; -; 1.
InterPro; IPR001926; B6_enzyme_beta.
InterPro; IPR006553; Trp_synth_b_rel.
InterPro; IPR006654; Trp_synth_beta.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GenomeReviews; AL157959 GR; NMA0904.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BioCyc; NMEN65699:NMA0904-MONOMER;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-OCT-2000, sequence version 1. 07-MAR-2006, entry version 29.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             100.08;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Local Similarity 100.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pfam, PF00291; PALP; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           186 VDDTFY 191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          400 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        HSSP; P00933; 2WSY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2 VDDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                             similarity)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TRPB NEIMB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BINDING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TRPB NEIMB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 33
```

ö

셤

Š

```
||||||
188 VDDTFY 193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  METCA
                                                                                                                                                                                     044BZ8
                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 37
                                     a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                        Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
Lewis L.A., Gillaspy A.F., McLaughlin R.E., Gipson M., Ducey T.F., Ownbey T., Hartman K., Nydick C., Carson M.B., Vaughn J., Thomson C., Song L., Lin S., Yuan X., Najar F., Zhan M., Ren Q., Zhu H., Qi S., Kenton S.M., Lai H., White J.D. Clifton S., Roe B.A., Dyer D.W.; "The complete genome sequence of Naisseria gonorrhoeae."; Submitted (MAR-2003) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Glavina T.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STRAIN=XCL-2;
US DOE Joint Genome Institute;
Copeland A., Lucas S., Lapidus A., Barry K., Detter J.C., Glavina T.,
Hammon N., Israni S., Pitluck S., Chain P., Malfatti S., Shin M.,
Vergez L., Schmutz J., Larimer F., Land M., Kyrpides N., Lykidis A.,
Richardson P.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Tryptophan synthase, beta subunit.
ORFNames-TC-7, 0803;
Thiomicrospira crunogena (strain XCL-2).
Bacteria; Proteobacteria; Gammaproteobacteria; Thiotrichales;
                                                                                                                                                                                                                                            EMBL, AE004969; AAW89024.1; -; Genomic DNA.

GO; GO:0004834; F:Lyyase activity; IEA.

GO; GO:0004834; F:Lryptophan synthase activity; IEA.

GO; GO:0008152; P:metabolism; IEA.

GO; GO:0008568; P:tryptophan metabolism; IEA.

InterPro; IPR001926; B6 enzyme beta.

InterPro; IPR006654; Trp_synth_bral.

InterPro; IPR006664; Trp_synth_beta.

Fram; PF00291; PALP; 1.

RTGRAMA; TIGR006654; Trp_synth_beta.

Fram; PF00291; PALP; 1.

RTGRAMA; TIGR006654; TrpB; 1.

RTGRAMA; TIGR006654; TrpB; 1.

RTGRAMA; TIGR006654; Trp synth_beta.

RTGRIF; PS00168; TRP_SYNTHASE BETA; 1.

RROSITE; PS00168; TRP_SYNTHASE BETA; 1.

RROSITE; PS00168; TRP_SYNTHASE BETA; 1.

SEQUENCE 400 AA; 43459 MW; C31E408696C60AE7 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 66.7%; Score 6; DB 2; Length 401; Best Local Similarity 100.0%; Pred. No. 88; Matches 6; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 2; Length 400;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "Complete sequence of Thiomicrospira crunogena XCL-2."; Submitted (JUL-2005) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         401 AA; 43363 MW; A98F7EF3778EDC2B CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL; CP000109; ABB41399.1; -; Genomic DNA.
GG: GG:0003824; F:catalytic activity; IEA.
GO; GO:0004834; F:tryptophan synthase activity; IEA.
GO; GG:0008152; P:metabolism; IEA.
GG: GG:0006568; P:tryptophan metabolism; IEA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            06-DEC-2005, integrated into UniProtKB/TrEMBL. 06-DEC-2005, sequence version 1. 07-MAR-2006, entry version 4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         87;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    401 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           66.7%; Score 6; DB 2
100.0%; Pred. No. 87;
ive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Piscirickettsiaceae; Thiomicrospira.
NCBI_TaxID=317025;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Guery Match
Best Local Similarity 100.vv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pyridoxal phosphate.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           186 VDDTFY 191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2 VDDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        H4 THICR
Q31HH4 THICR
Q31HH4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SO ON DRANGE SO ON
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      쉽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ठ
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                       US DOE Joint Genome Institute (JGI-PGF);

Copeland A., Lucas S., Lapidus A., Barry K., Detter C., Glavina T., Hammon N., Israni S., Pitluck S., Richardson P.;

"Sequencing of the draft genome assembly of Chromohalobacter salexigens DSM 3043.";
Submitted (JUN-2005) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                       Bacteria; Proteobacteria; Gammaproteobacteria; Oceanospirillales;
Halomonadaceae; Chromohalobacter.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STRAIN=DSM 3043;
US DOE Joint Genome Institute (JGI-ORNL);
Larimer F., Land M.;
Land M.;
Annotation of the draft genome assembly of Chromohalobacter salexigens DSM 3043.";
Submitted (JUN-2005) to the EMBL/GenBank/DDBJ databases.
-! CAUTION: The sequence shown here is derived from an EMBL/GenBank/DDBJ whole genome shotgun (WGS) entry which is preliminary data.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 404;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            404 AA; 43777 MW; FECB7C0B2BD168AE CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL, AAHZ01000035; EAM22248.1; -; Genomic_DNA.

GO; GO:0003824; F:catalytic activity; IEA.

GO; GO:0004834; F:tryptophan synthase activity; IEA.

GO; GO:0008152; F:metabolism; IEA.

GO; GO:0006568; F:tryptophan metabolism; IEA.

InterPro; IPR00653; FE GE GONTAME Deta.

InterPro; IPR006653; Trp_Synth_D rel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Tryptophan synthase, beta subunit (EC 4.2.1.20) Name=trpB; OrderedLocusNames=MCA2495;
                                              13-5EP-2005, integrated into UniprotKB/TrEMBL.
13-5EP-2005, sequence version 1.
07-FEB-2006, entry version 5.
OT-FEB-2006, entry version 5.
ORFNames=CsalDRAFT_0124;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              23-NOV-2004, integrated into UniProtKB/TrEMBL.
23-NOV-2004, sequence version 1.
07-FEB-2006, entry version 14.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                66.7%; Score 6; DB 2;
100.0%; Pred. No. 88;
ive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               405 AA.
  404 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pfam; PF00291; PALP; 1. TGREAM; TIGREAM; TIGREAM; TIGREAM; TIGREAM; TEPB; 1. PROSITE; PS00168; TRP_SYNTHASE_BETA; 1. Pyridoxal phosphate.
                                                                                                                                                                                             Chromohalobacter salexigens DSM 3043
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRT;
Q44BZ8 CHRSL PRELIMINARY; PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                   NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 190 VDDTFY 195
                                                                                                                                                                                                                                                                            NCBI_TaxID=290398;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2 VDDTFY 7
                                                                                                                                                                                                                                                                                                                                                                   STRAIN=DSM 3043;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q604P3_METCA
Q604P3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            060493 V

1D 060

AC 060

DT 23-

DT 23-

DT 07-

DE Try

GN Nam
```

```
Local Similarity 100.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Phaseolus vulgaris.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRAIN=1449 / Race 7;
                                                                                                                                                                                                                                                                                                                                                                                                                                   193 VDĎTFY 198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        P00933; 2WSY.
                                                                                                                                                                                                                                                                                                                                                                                                  7
                                                                                                                                                                                                                                                                                                                                                                                                  2 VDDTFY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=319;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TRPB PSESH
Q849P2;
                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TRPB_PSESH
                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 39
       ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                       Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                [1]

WUCLECTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].

STRAIN-Bath / NCIMB 11132;

PubMed=15381840; DOI=10.1371/journal.pbio.0020303;

Ward N.L., Larsen O., Sakwa J., Bruseth L., Khouri H.M., Durkin A.S.,

Ward N.L., Larsen O., Sakwa J., Pruseth L., Khouri H.M., Durkin A.S.,

Ward N.L., Larsen O., Sakwa J., Pruseth L., Khouri H.M., Durkin A.S.,

Mathe B.A., Wu M., Heidelberg J.F., Paulsen I.T., Fouts D.B.,

Ravel J., Tettelin H., Ren Q., Read T.D., DeBoy R.T., Seshadri R.,

Salzberg S.L., Jensen H.B., Birkeland N.K., Nelson W.C., Dodson R.J.,

Grindhaug S.H., Holt I.E., Eidhammer I., Jonasen I., Vanaken S.,

Utterback T.R., Feldblyum T.V., Fraser C.M., Lillehaug J.R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US DOE Joint Genome Institute (JGI-PGF);
Copeland A., Lucas S., Lapidus A., Barry K., Detter J.C., Glavina T.,
Hammon N., Israni S., Pitluck S., Richardson P.;
"Sequencing of the draft genome and assembly of Marinobacter aquaeolei
                                                                                                                                                                                                                                                                                   "Genomic insights into methanotrophy: the complete genome sequence of Methylococcus capsulatus (Bath)."; PLoS Biol. 2:1616-1628(2004).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
Methylococcus capsulatus.
Bacteria; Proteobacteria; Gammaproteobacteria; Methylococcales;
Methylococcaceae; Methylococcus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gammaproteobacteria; Alteromonadales;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 405;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Submitted (OCT-2005) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TIGRFAMS; TIGR00263; LTDB; 1.
PROSITE; PS00168; TRP_SYNTHARS BETA; 1.
COMPLETE PROCEOME; Lyase; Pyridoxal phosphate.
SEQUENCE 405 AA; 43992 MW; 9303CP7794971327 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                       1107. N.C. 120. P. 1 yase activity, IEA.
GO; GO:0004834; F:Lryptophan synthase activity; IEA.
GO; GO:0004834; F:Lryptophan synthase activity; IEA.
GO; GO:0006568; P:Lryptophan metabolism; IEA.
GO; GO:0006568; P:Lryptophan metabolism; IEA.
InterPro; IFR001926; B6 enzyme beta.
InterPro; IFR006653; Trp_synth_brel.
InterPro; IFR066654; Trp_synth_beta.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   06-DEC-2005, integrated into UniProtKB/TrEMBL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              66.7%; Score 6; DB 2;
100.0%; Pred. No. 88;
iive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    406 AA.
                                                                                                                                                                                                                                                                                                                                                                                                             EMBL; AE017282; AAU91370.1; -; Genomic_DNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRAIN-VT8;
US DOE Joint Genome Institute (JGI-ORNL);
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    06-DBC-2005, sequence version 1.
OF-DRAZ-2006, entry version 4.
Tryptophan synthase, beta chain.
ORFNames=MaquDRAFT_1855;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Marinobacter aquaeolei VT8.
Bacteria; Proteobacteria; Gamma
Alteromonadaceae; Marinobacter.
NCBI TaxID=351348;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity 100.
Matches 6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Pfam; PF00291; PALP; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |||||||
192 VDDTFY 197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUCLEOTIDE SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2 VDDTFY 7
                                                       NCBI_TaxID=414;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q36T45_MARHY
Q36T45;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q36T45 MARHY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 38
```

d

ઠ

THE REPORT OF TH

```
Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Tsaltas D.; "Biochemical, structural and molecular characterization of resistant interactions between Pseudomonas syringae pv. phaseolicola and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Amino-acid biosyntheeTs; Aromatic amino acid biosynthesis; Lyase; Pyridoxal phosphate; Tryptophan biosynthesis.
Larimer F., Land M.;
"Annotation of the draft genome of Marinobacter aquaeolei VTB.";
Submitted (OCT-2005) to the EMBL/GenBank/DDBJ databases.
-!- CAUTION: The sequence shown here is derived from an
EMBL/GenBank/DDBJ whole genome shotgun (WGS) entry which is
preliminary data.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pseudomonas syringae pv. phaseolicola.
Bacteria; Proteobacteria; Gammaproteobacteria; Pseudomonadales;
Pseudomonadaceae; Pseudomonas.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 406;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            43944 MW; 6853FD2DE57F50A6 CRC64;
                                                                                                                                                                                                                                                                                                EMBL; AALG01000004; EAO99973.1; -; Genomic_DNA.
GO; GO:0003824; F:catalytic_activity; IEA.
GO; GO:0004834; F:tryptophan synthase activity; IEA.
GO; GO:0008122; P:metabolism; IEA.
GO; GO:0006568; P:tryptophan metabolism; IEA.
Pyridoxal phosphate.
Pyridoxal 406 AA; 43944 MW; 6853FD2DE57F50A6 CRC6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           31-OCT-2003, integrated into UniProtKB/Swiss-Prot.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-JUN-2003, sequence version 1.
07-FEB-2006, entry version 19.
Tryptophan synthase beta chain (EC 4.2.1.20)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     409 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 66.7%; Score 6; DB 2, 100.0%; Pred. No. 88; tive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              similarity).
-!- SIMILARITY: Belongs to the trpB family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL; AY210847; AAO50076.1; -; Genomic_DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         HAMAP; MF_00133; -; 1.
InterPro; IRR0061926; B6_enzyme_beta.
InterPro; IRR006653; Trp_synth_b_rel.
InterPro; IRR006654; Trp_synth_beta.
Pfam; PF00291; PALP; 1.
TIGRAMS; TIGR00263; trpB; 1.
PROSITE; PS00168; TRP_SYNTHASE_BETA; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUCLEOTIDE SEQUENCE [GENOMIC DNA]
```

ö

```
ö
                                                                                                                                                                                                                                                                                                          Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                               Gaps
          /FTId=PRO_0000098984.
Pyridoxal_phosphate (covalent) (By
                                                                                                                                                                                                                                         Pseudomonas syringae pv. tomato.
Bacteria; Proteobacteria; Gammaproteobacteria; Pseudomonadales;
Pseudomonadaceae; Pseudomonas.
                                                                               ö
  Tryptophan synthase beta chain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TIGREAMS; TIGRO0263; trpB; 1.
PROSITE; PS00168; TRP_SYNTHASE_BETA; 1.
Amino-acid biosynthesis; Aromatic amino acid biosynthesis;
Complete proteome; Lyase; Pyridoxal phosphate;
                                                          DB 1; Length 409;
                                                                               0; Indels
                                       44542 MW; D6311A4BB6C9BABF CRC64;
                                                                                                                                                                                          31-OCT-2003, integrated into UniProtKB/Swiss-Prot.
                                                                                                                                                                                                                                                                                           NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA]
                                                                                                                                                                                                  01-JUN-2003, sequence version 1.
07-MAR-2006, entry version 21.
Tryptophan synthase beta chain (BC 4.2.1.20)
Name=trpB, OrderedLocusNames=PSPTO0158;
                                                                                                                                                                       409 AA.
                                                        66.7%; Score 6; DB 1;
100.0%; Pred. No. 89;
cive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -1- SIMILARITY: Belongs to the trpB family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL; AE016853; AAO53712.1; -; Genomic_DNA.
                               similarity)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HSSP; P00933; ZWSY.
GenomeReviews; AE016853_GR; PSPTO0158.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     HAMAP; MF_00133; -; 1.
InterPro; IPR001926; B6_enzyme_beta.
InterPro; IPR006653; Trp_synth_brel.
InterPro; IPR006654; Trp_synth_beta.
Pfam; PF00291; PALP; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BioCyc, PSYR223283: PSPTO0158-MONOMER; HAMAP; MF 00131.
                                                                                                                                                                      PRT;
                                                Query Match
Best Local Similarity luv...
5. Conservative
                                                                                                                                                                      STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Tryptophan biosynthesis
                  95
                                                                                                                     189 VDDTFY 194
                                       409 AA;
                                                                                                 2 VDDTFY 7
                  95
                                                                                                                                                                                                                                                                       NCBI_TaxID=323;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           similarity)
                                                                                                                                                                      PSESM
                                       SEQUENCE
                   BINDING
                                                                                                                                                                             Q88B61;
CHAIN
                                                                                                                                                              PSESM
FTFFS
                                                                                                                                                                      ઠે
                                                                                                                   셤
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S.A.,
L.,
                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].

PubMed=16159782; DOI=10.1128/JB.187.18.6488-6498.2005;

PubMed=16159782; DOI=10.1128/JB.187.18.6488-6498.2005;

A Joardaw V., Lindebergy M., Jackson R., Selengut J., Dodson R.,

Brinkac L.M., Daugherty S.C., DeBOY R.T., Durkin A.S.,

Gwinn Giglio M., Madupu R., Nelson W.C., Rosovitz M.J., Sullivan S.A.

Rabpin R., Holley T., Khouri H.M., Feldblyum T.V., White O.,

Fraser C.M., Chatterjee A.K., Cartinhour S., Schneider D.,

Mansfield J., Collmer A., Buell R.;

"Whole-genome sequence analysis of Pseudomonas syringae pv.

Thaseolicola 1448A reveals divergence among pathovars in genes

Tinvolved in virulence and transposition.";

J. Bacteriol. 187:6488-6498 (2005).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
Tryptophan synthase beta chain.
/FTId=PRO 0000098985.
Pyridoxal phosphate (covalent) (By
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Tryptophan synthase, beta subunit (EC 4.2.1.20).
Name=trpB; OrderedLocusNames=PSPPH 0036;
Pseudomonas syringae pv. phaseolicola (strain 1448A / Race 6).
Bacteria; Proteobacteria; Gammaproteobacteria; Pseudomonadales;
Pseudomonadaceae; Pseudomonas.
                                                                                                                                                                                                                                         ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ..
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 2; Length 409; . 89;
                                                                                                                                                                                Length 409;
                                                                                                                                                                                                                                      0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         InterPro; IPR006654; Trp_Bynth_beta.
Pfam; PF00291; PALP; 1.
TIGRFAMS; TIGR00263; trpB; 1.
PROSITE; PS00168; TRP_SYNTHASE BETA; 1.
Complete proteome; Lyase; Pyridoxal phosphate.
SEQUENCE 409 AA; 44516 MW; C2604B0EA29BEBFA CRC64;
                                                                                                                      44547 MW; 25A56962380CC284 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL; CP000058; AAZ34189.1; -; Genomic_DNA.
GO; GO:0016829; F:lyase activity; IEA.—
GO; GO:00048134; F:ryptophan synthase activity; IEA.
GO; GO:0008152; F:metabolism; IEA.
GO; GO:0005568; P:tryptophan metabolism; IEA.
InterPro; IPR001926; Be_enzyme_beta.
InterPro; IPR006653; Trp_synth_b rel.
InterPro; IPR006654; Trp_synth_beta.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            13-SEP-2005, integrated into UniProtKB/TrEMBL.
                                                                                                                                                                                DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      409 AA.
                                                                                                                                                                          66.7%; Score 6; DB 1. 100.0%; Pred. No. 89; tive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 409 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
                                                                                              similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 6; I
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q48QG6 PSE14 PRELIMINARY; PRT;
Q48QG6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        13-SEP-2005, sequence version 1. 07-PBB-2006, entry version 6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       100.0%; Pre
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     66.78;
                                                                                                                                                                                                                                      6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                            95
                                                                                                                                                                                                                                                                                                                                        189 VDDTFY 194
                                                                                                                      409 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ||||||
189 VDDTFY 194
                                                                                                                                                                                                        Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=264730;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local Similarity
                                                                                                                                                                                                                                                                                             2 VDDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        7
                                                            95
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2 VDDTFY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   )R4_PSEU2
Q500R4_PSEU2
Q500R4;
                                                                                                                   SEQUENCE
                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                            BINDING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PSE14
   CHAIN
                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 42
                                                                                                                                                                                                                                                                                                                                                                                                                                         SESTITATION OF SESTIMATION OF SESTIM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q500R4
ID Q5
AC Q5
   FFFFS
                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                    ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠ
```

```
2 VDDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NCBI_TaxID=187272;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2 VDDTFY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STRAIN=MLHE-1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STRAIN=MLHE-1;
                                                                                                                                                                                                                                                                                                                                                                                    Q352W5_9GAMM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q3MWU8 9DELT
Q3MWU8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                9GAMM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9DELT
                                                                                                                                                                                                                                                                                                                                                                                                               0352W5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 45
Q3MWU8 9DE
ID Q3MWU
AC Q3MWU
DT 25-OC
DT 25-OC
                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                         ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                               WUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
PubMed=16043691; DOI=10.1073/pnas.0504930102;
Peil H., Feil W.S., Chain P., Larimer F., Dibartolo G., Copeland A., Luykidis A., Trong S., Nolan M., Goltsman E., Thiel J., Malfatti S., Loper J.E., Lapidus A., Detter J.C., Land M., Richardson P.M., Kyrpides M.C., Ivanova N., Lindow S.E.;
"Comparison of the complete genome sequences of Pseudomonas syringae pv. syringae B728a and pv. tomatro DG3000.";
Proc. Natl. Acad. Sci. U.S.A. 102:11064-11069(2005).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STRAIN=KCTC 2396;
PubMed=16352867; DOI=10.1093/nar/gki1016;
Jeong H., Yim J.H., Lee C., Choi S.-H., Park Y.K., Yoon S.H.,
Hur C.-G., Kang H.-Y., Kim D., Lee H.H., Park K.H., Park S.-H.,
Park H.-S., Lee H.K., Oh T.K., Kim J.P.;
"Genomic blueprint of Hahella chejuensis, a marine microbe producing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Tryptophan synthase, beta subunit (EC 4.2.1.20).
Name=trpB1; ORFNames=HCH 02436;
Hahella chejuenais KCTC 2396.
Bacteria; Proteobacteria; Gammaproteobacteria; Oceanospirillales;
Hahellaceae; Hahella.
                                                                                           OrderedLocusNames=Psyr_0034;
Pseudomonas syringae pv. syringae (strain B728a).
Bacteria; Proteobacteria; Gammaproteobacteria; Pseudomonadales;
Pseudomonadaceae; Pseudomonas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 409;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TIGRFAMS; TIGRO0263; LTPB; 1.
PROSITE; PSO0168; TRP SYNTHASE BETA; 1.
COMPLETE PROCEOME; Lyase; Pyridoxal phosphate.
SEQUENCE 409 AA; 44452 MW; D6B7755F530D7E4B CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL; CP000075; AAY35108.1; -; Genomic_DNA.
GO; GO:0016823; F:lyage activity; IEA.
GO; GO:0004834; F:ryaptophan synthase activity; IEA.
GO; GO:0008152; P:netabolism; IEA.
GO; GO:0008152; P:netabolism; IEA.
InterPro; IFR001926; Be_enzyme_beta.
InterPro; IFR001926; Be_enzyme_beta.
InterPro; IFR006653; Trp_synth, b_rel.
InterPro; IFR006654; Trp_synth_beta.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .
  integrated into UniProtKB/TrEMBL.
07-JUN-2005, integrated into UniProtKB/TrEMBL. 07-JUN-2005, sequence version 1. 07-EBB-2006, entry version 8. Tryptophan synthase, beta chain (EC 4.2.1.20).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        66.7%; Score 6; DB 2;
100.0%; Pred. No. 89;
ive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         24-JAN-2006, integrated into UniProtKB/TrEMBL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRT; 410 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 an algicidal agent.";
Nucleic Acids Res. 33:7066-7073(2005).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          24-JAN-2006, sequence version 1. 07-MAR-2006, entry version 3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QZSJD1_9GAMM PRELIMINARY;
Q2SJD1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pfam; PF00291; PALP; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                189 VDDTFY 194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Best Local Similarity
Matches 6; Conserv
                                                                                                                                                                                       NCBI_TaxID=205918;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2 VDDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NCBI_TaxID=349521;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9GAMM
DAR REPARENCE OF COLOR OF PRANCE OF PARENCE OF PARENCE OF PARENCE OF OF PARENCE OF OF PARENCE OF PA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Larimer F., Land M.;
"Annotation of the draft genome of Alkalilimnicola ehrlichei MLHE-1.";
Submitted (NOV-2005) to the EMBL/GenBank/DDBJ databases.
-!- CAUTION: The sequence shown here is derived from an
EMBL/GenBank/DDBJ whole genome shotgun (WGS) entry which is
                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Detter J.C., Glavina T.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US DOE Joint Genome Institute (JGI-PGF);
Copeland A., Lucas S., Lapidus A., Barry K., Detter J.C., Glavir Hammon N., Israni S., Pitluck S., Richardson P.;
"Sequencing of the draft genome and assembly of Alkalilimnicola ehrlichei MLHE-1.";
                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Bacteria; Proteobacteria; Gammaproteobacteria; Chromatiales;
Ectothiorhodospiraceae; Alkalilimnicola.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 66.7%; Score 6; DB 2; Length 411; 100.0%; Pred. No. 89; 0; Indels ive 0; Mismatches 0; Indels
                                                                                                                                   Length 410;
                                                                                                                                                                                        0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Submitted (OCT-2005) to the EMBL/GenBank/DDBJ databases
EMBL, CP000155; ABC29243.1; -; Genomic_DNA.
GO; GO:0016829; F:1yase activity; IEA.
Lyase; Pyridoxal phosphate.
SEQUENCE 410 AA; 45093 MW; 2389625857C5E998 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            44619 MW; B8952DA9644A4C26 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL; AALKO1000001; EAF35688.1; -; Genomic_DNA.
GO; GO:0016829; F:lyase activity; IEA.
GO; GO:0004834; F:tryptophan synthase activity; IEA.
GO; GO:0008152; P:metabolism; IEA.
GO; GO:0005658; P:tryptophan metabolism; IEA.
Lyase; Prytidoxal phosphate.
SEQUENCE 411 AA; 44619 MW; B8952DA9644A4C26 CRC64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          06-DEC-2005, integrated into UniProtKB/TrEMBL.
06-DEC-2005, sequence version 1.
07-MAR-2006, entry version 4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Tryptophan synthase, beta chain (EC 4.2.1.20) ORFNames=MlgDRAFT 2774; Alkalilimnicola ehrlichei MLHE-1.
                                                                                                                                 DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                25-OCT-2005, integrated into UniProtKB/TrEMBL 25-OCT-2005, sequence version 1.
                                                                                                                                                                                                                                                                                                                                                                                                                              411 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 416 AA.
                                                                                                                                 66.7%; Score 6; DB 2
100.0%; Pred. No. 89;
iive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US DOE Joint Genome Institute (JGI-ORNL);
                                                                                                                                                                                                                                                                                                                                                                                                                            PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                              PRELIMINARY;
                                                                                                     Query Match
Best Local Similarity luv...
6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 preliminary data.
                                                                                                                                                                                                                                                                     ||||||
197 VDDTFY 202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NUCLEOTIDE SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          198 VDDTFY 203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity
wes 6; Conserv
```

```
Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 66.7%; Score 6; DB 2; Length 482; 100.0%; Pred. No. 1e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-NOV-1996, integrated into UniProtKB/TrEMBL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                         482 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-NOV-1996, sequence version 1.
07-FEB-2006, entry version 27.
Alpha-amylase precursor (EC 3.2.1.1)
                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE=95031040; PubMed=7944369;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              54483 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q60051 THEVU PRELIMINARY;
Q60051;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Thermoactinomyces vulgaris
                                                                                                                                                                                                                                                                              6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                         300 VDDTFY 305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NUCLEOTIDE SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            482 AA;
                                                                                                                                                                                                                                                            Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Local Similarity
                                                                                                                                                                                                                                                                                                                2 VDDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STRAIN=K94;
Hofemeister J.W.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NCBI_TaxID=2026;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Name=amyTV;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STRAIN=K94;
                                                                                                                                                                                                 SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE
                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                            Matches
    ઠે
                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                         HID DEPTH OF THE PRINCE OF THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms
                                                                                                                                                                      STRAIN=MPOB;
US DOE Joint Genome Institute (JGI-PGF);
Copeland A., Lucas S., Lapidus A., Barry K., Detter J.C., Glavina T., Hammon N., Israni S., Pitluck S., Richardson P.;
"Sequencing of the draft genome and assembly of Syntrophobacter fumaroxidans MPOB.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                   Bacteria; Protecbacteria; Deltaprotecbacteria; Syntrophobacterales; Syntrophobacteraceae; Syntrophobacter.
NCBI_TaxID=335543;
                                                                                                                                                                                                                                                                                                                                                                                                                          funaroxidans MPOB.";
Submitted (JUL-2005) to the EMBL/GenBank/DDBJ databases.
-!- CAUTION: The sequence shown here is derived from an
EMBL/GenBank/DDBJ whole genome shotgun (WGS) entry which is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ;
0
                                                                                                                                                                                                                                                                                                                                                                                          Larimer F., Land M.; "Annotation of the draft genome assembly of Syntrophobacter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    h 66.7%; Score 6; DB 2; Length 416; Similarity 100.0%; Pred. No. 90; 6; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Bacillus thuringiensis serovar israelensis ATCC 35646.
Bacteria, Pirmicutes; Bacillales; Bacillus cereus group.
NCBI_TaxID=339854;
                                                                                                                                                                                                                                                                                rumaroxidans MPOB.";
Submitted (JUL-2005) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    416 AA; 46643 MW; CE2F7754D4B3F249 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EMBL; AAJF0100066; EA019414.1; -; Genomic_DNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              08-NOV-2005, integrated into UniProtKB/TrEMBL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         474 AA
                                                                                                                                                                                                                                                                                                                                                   STRAIN=MPOB;
US DOE Joint Genome Institute (JGI_ORNL);
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Phosphoenolpyruvate synthase (EC 2.7.9.2).
ORFNames=RBTH 02591;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q3EMBS_BACTI PRELIMINARY; PRT;
Q3EMBS;
                  Hypothetical protein.
ORFNames=SfumDRAFT_0032;
Syntrophobacter fumaroxidans MPOB.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            08-NOV-2005, sequence version 1.
07-FEB-2006, entry version 3.
07-FEB-2006, entry version 3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               preliminary data.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Hypothetical protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               preliminary data.
                                                                                                                                                                                                                                                                                                                                 NUCLEOTIDE SEQUENCE.
                                                                                                                                                        NUCLEOTIDE SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      136 KVDDTF 141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
Matches 6; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 KVDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
```

```
DR ENBL; X69807; CAA49465.1; -; Genomic_DNA.

DR HSP; 831478; S31478.

DR HSSP; P10529; 7TAA.

DR GO; GO:0004556; F:alpha-amylase activity; IEA.

GO; GO:0016798; F:hydrolase activity; IEA.

GO; GO:0016798; F:hydrolase activity; IEA.

CO; GO:0016798; F:hydrolase activity acting on glycosyl bonds; IEA.

DR GO; GO:0016798; F:hydrolase activity.

CO; GO:0005975; F:alpha-amylcat entabolism; IEA.

DR InterPro; IPR006048; Alpha-amylcat.

R InterPro; IPR006048; Alpha-amylcat.

DR FERM; PR00110; Alpha-Amylcae.

SMART; SM00642; Aamy; 1.

SMART; SM0642; Aamy; 1.

SMART; SM0642; Aamy; 1.

SMART; SM0642; Aamy; 1.

SIGNAL

SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms
Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Hofemeister B., Koenig S., Hoang V., Engel J., Mayer G., Hansen G.,
Hofemeister J.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "The gene amyB(TV1) codes for a nonglucogenic alpha-amylase from Thermoactinomyces vulgaris 94-2A in Bacillus subtilis."; Appl. Environ. Microbiol. 60:3381-3389(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                 ;
0
                                                                                                                                                                                                                                                                                                                                                         66.7%; Score 6; DB 2; Length 474;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Bacteria; Firmicutes; Bacillales; Thermoactinomycetaceae; Thermoactinomyces
EMBL; AAJM01000430; EAO52421.1; -; Genomic_DNA.
GO; GO:0005524; F:ATP binding; IEA.
GO; GO:0008986; F:pyruvare, water dikinase activity; IEA.
GO; GO:0016740; F:transferase activity; IEA.
GO; GO:0016310; P:phosphorylation; IEA.
InterPro; IRR002192; PPDK_PEP_bd.
Pfam; PF01326; PPDK N; 1.
Pyruvate; Transferase.
                                                                                                                                                                                                                                                                                                                                                                                             100.0%; Pred. No. 1e+02; ative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Submitted (DEC-1992) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                        474 AA; 52575 MW; 1C0A641BE2374B57 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  alpha-amylase.
; D8F98C370B579025 CRC64;
```

```
Altafi H., Nguyen M., Lam B., Southwick A., Miranda M., Brooks S., Buehler E., Chao Q., Chin C., Chiou J., Choi B., Gonzalez A., Howng B., Johnson-Hopson C., Khan S., Kim C., Koo T., Lee J.M., Liu S., Mukharsky N., Pham P., Sakano H., Shinn P., Toriumi M., Vaysberg M., Yu G., Ecker J., Theologis A., Davis R.W.; Submitted (AUG-2000) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Local Similarity 100.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRINTS; PR00792; PEPSIN.
PROSITE; PS00141; ASP PR
SEQUENCE 485 AA; 5217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pfam; PF00026; Asp; 1
                                                                                                                                                                                                                                                                                                                                            NUCLEOTIDE SEQUENCE.
                                                                NUCLEOTIDE SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUCLEOTIDE SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DTFYYV 332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    6
         WCBI_TaxID=3702;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4 DTFYYV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NCBI_TaxID=3702;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q2V3N3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          O2V3N3]

11D O2Z

12D O2Z

12D
         ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-OCT-2000, integrated into UniProtKB/TrEMBL.
01-OCT-2000, sequence version 1.
07-FBB-2006, entry version 17.
F6F3.10 protein (Chloroplast nucleoid DNA binding protein, putative) (At1g01300).
                                                                                                                                                                                                                                                                                                                   01-0CT-2002, integrated into UniProtKB/TrEMBL.
01-0CT-2002, sequence version 1.
01-0CT-2002, sequence version 13.
Chloroplast uncleoid DNA binding protein, putative.
Arabidopsis thaliana (Mouse-ear cress).
Bukaryota, Viridiplantae, Streptophyta, Embryophyta, Tracheophyta, Spermatophyta, Magnoliophyta, eudicotyledons, core eudicotyledons; rossids; eurosids II; Brassicales; Brassicaceae; Arabidopsis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Arabidopsis thaliana (Mouse-ear cress).

Eukaryota, Viridiplantae, Streptophyta, Embryophyta, Tracheophyta, Spermatophyta, Magnoliophyta, eudicotyledons, core eudicotyledons, rosids, eurosids II, Brassicales, Brassicaceae, Arabidopsis.
      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=22088475; PubMed=12093376;
Haas B.J., Volfovsky N., Town C.D., Troukhan M., Alexandrov
Peldmann K.A., Flavell R.B., White O., Salzberg S.L.;
"Full-length messenger RNA sequences greatly improve genome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ۲.
نام
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 485;
         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Brover V., Troukhan M., Alexandrov N., Lu Y.-P., Flavell
Peldmann K.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Submitted (MAR-2002) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PROSITE; PS00141; ASP PROTEASE; UNKNOWN 2.
SEQUENCE 485 AA; 52314 MW; D205F7EA9B283787 CRC64;
      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 6; DB 2; L
Pred. No. 1e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Genome Biol. 3:RESEARCH0029-RESEARCH0029(2002).
                                                                                                                                                                                                                                                                        485 AA
   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GO; GO:0004194; F:pepsin A activity; IEA.
GO; GO:0006508; P:proteolysis; IEA.
InterPro; IPR001969; Pept Asp As.
InterPro; IPR001907; Pept Aspartc_cat.
InterPro; IPR001461; Peptidase Al.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL; AY088528; AAM66061.1; -; mRNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRT;
                                                                                                                                                                                                                                                                        PRT;
   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   66.7%; 8
100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRELIMINARY;
                                                                                                                                                                                                                                                                     PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity 100..
Si Conservative
   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRINTS; PR00792; PEPSIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pfam; PF00026; Asp; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUCLEOTIDE SEQUENCE
                                                                                                                    409 VDDTFY 414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             327 DTFYYY 332
                                                       2 VDDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4 DTFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NCBI_TaxID=3702;
                                                                                                                                                                                                                                                               QBL9B9_ARATH
QBL9B9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q9LNJ3 ARATH
Q9LNJ3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               annotation.";
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 49
                                                                                                                                                                                                                                081.989.7

081.989.7

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.00000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.00000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.00000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.00000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.00000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000

081.0000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q91AJ3
1D Q9
AC Q9
AC Q9
DT 011
DT 071
DE F6
CN Na
CN Na
CO EU
                                                          ઠે
                                                                                                                 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠે
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                             Shinn P., Chen H., Cheuk R., Kim C.J., Bowser L., Carninci P., Dale J., Jones T., Kamiya A., Dale J., W., Hayashizaki Y., Hsuau V.W., Ishida G., Jones T., Kamiya A., Karlin-Neumann G., Kawai J., Lam B., Lin J., Miranda M., Narusaka M., Nguyen M., Onodera C.S., Palm C.J., Quach H.L., Sakurai T., Satou M., Seki M., Wong C., Wu H.C., Yamada K., Yu G., Yuna S., Shinozaki K., Davis R.W., Theologis A., Ecker J.R., Submitted (MAY-2003) to the EMBL/GenBank/DDBJ databases.
Tripp M., Southwick A., Karlin-Neumann G., Nguyen M., Miranda M., Palm C.J., Bowser L., Jones T., Banh J., Carninci P., Chen H., Cheuk R., Chung M.K., Haysshizaki Y., Ishida J., Kamiya A., Kawai J. Kim C., Lin J., Liu S.K., Narusaka M., Pham P.K., Sakano H., Sakurai T., Satou M., Seki M., Shinn P., Yamada K., Shinozaki K., Submitted (JUL-2002) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gapa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          OrderedicousNames=At3g59080;
Arabidopsis thaliana (Mouse-ear cress).
Eukaryota, Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicotyledons;
rosids; eurosids II; Bassicales; Brassicaceae; Arabidopsis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EMBL; AC023628; AAF97328.1; -; Genomic_DNA.
EMBL; AY12844; AAM91547.1; -; mRNA.
EMBL; BY106619; AAP31963.1; -; mRNA.
FIR; C86143; C86143.
HSSP; P42210; 10DW.
TAIR; At1901300; -..
GO; GO:0009505; C:cell wall (sensu Magnoliophyta); IDA.
InterPro; IPR001969; Pept_Asp_AS.
InterPro; IPR0010461; Peptidase Al.
InterPro; IPR010461; Peptidase Al.
EANTHER; PIRR13683; Peptidase Al.
PANTHER; PIRR13683; Peptidase Al. 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 2; Length 485;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        66.7%; Score 6; DB 2; Length 485; 100.0%; Pred. No. 1e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 52175 MW; 1A71782027531709 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            10-JAN-2006, integrated into UniProtKB/TrEMBL.
10-JAN-2006, sequence version 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    [1] -
NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PROTEASE; UNKNOWN 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       10-JAN-2006, sequence version 1.
07-FEB-2006, entry version 3.
Protein At3959080.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             02v3n3_arath preliminary;
```

```
SEQUENCE
                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                        datches
                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 52
                                                                                                                                                                                                                                                                                                                                                                                                                               Q9LS40
   ð
                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                               RATAINERO. COLUMDIAS;

RATAINERO. COLUMDIAS;

RA FAIRANIECO. COLUMDIAS;

RA FAIRANIECO. COLUMDIAS;

RA FAIRANIECO.

RA FAIRMANN B., Lemcke K., Rieger M., Ansorge W., Unseld M.,

RA POLSON W., Dentry M., Grivell L.A., Mache R., Puigdomenech P.,

RA Delseny W., Boutry M., Grivell L.A., Mache R., Puigdomenech P.,

RA Delseny W., Choisne N., Artiguenave F., Robert C., Brottier F.,

RA Mincker P., Cattolico L., Weissenbach J., Saurin W., Quetier F.,

RA Wurmbach E., Drzonek H., Erfle H., Jordan N., Bangert S.,

RA Wiedelmann R., Kranz H., Voss H., Holland R., Brandt P., Nyakatura G.,

RA Wiedelmann R., Kranz H., Voss H., Holland R., Brandt P., Nyakatura G.,

RA Wordsten M., Pallavicini A., Toppo S., Simionati B.,

ROCKA R., Laudie M., Schoen O., Bargues M., Terol J., Climent J.,

RA Navarro P., Collado C., Perez-Perez A., Ottenwaelder B., Duchemin D.,

RA Mayer K.P., Kaul M., Berger-Llauro C., Purnelle B., Masuy D.,

RA Monfort A., Argiriou A., Flores M., Liguori R., Vitale D.,

RA Mannhaupt G., Haase D., Schoof H., Rudd S., Zaccaria P., Mewes H.-W.,

RA Monfort A., Mitten A., Utterback T., Fulli C.Y., Jenkins J.,

RA ROCKE Y., Lin X., Nierman W.C., Salzberg S.L., White O., Venter J.,

RA Pai G., Milltecher J., Sellers P., Gill J.E., Feldblyum T.V.,

RA Pai G., Miltecher J., Nierman W.C., Salzberg S.L., White O., Vanter J.,

RA Sasamoto S., Kimura T., Idesawa K., Kawashima K., Kishida Y.,

RA Sasamoto S., Kimura T., Idesawa K., Kawashima K., Kishida Y.,

RA Nakazama S., Nakazaki M., Sahipo S., Izakeuchi C., Wada T.,

RA Saguene and analysis of chromosome 3 of the plant Arabidopsis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUCLEOTIDE SEQUENCE.
Yamada K., Liu S.X., Sakano H., Pham P.K., Banh J., Chung M.K.,
Yamada K., Liu S.X., Sakano H.L., Toriumi M., Yu G., Bowser L.,
Goldsmith A.D., Lee J.M., Quach H.L., Toriumi M., Yu G., Bowser L.,
Kamiya P., Karlin-Neumann G., Kawai J., Kim C., Lam B., Lin J.,
Kamiya A., Karlin-Neumann G., Kawai J., Kim C., Lam B., Lin J.,
Miranda M., Narusaka M., Nguyen M., Palm C.J., Sakurai T., Satou M.,
Seki M., Shinn P., Southwick A., Shinozaki K., Davis R.W., Ecker J.R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Arabidopsis thaliana (Mouse-ear cress).

Eukaryota, Viridiplantae, Streptophyta, Embryophyta, Tracheophyta, Spermatophyta, Magnoliophyta, eudicotyledons, core eudicotyledons, rosids; eurosids II, Brassicales, Brassicaceae, Arabidopsis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 499;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q42403:TRX3; NbExp=1; IntAct=EBI-449501, EBI-449157;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Theologis A.; Submitted (FEB-2002) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         499 AA; 55354 MW; 87B60A948079617C CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-JUN-2002, integrated into UniProtKB/TrEMBL.
01-JUN-2002, sequence version 1.
07-FEB-2006, entry version 15.
Putative chloroplast nucleoid DNA-binding protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      66.7%; Score 6; DB 2; L
100.0%; Pred. No. 1e+02;
artive 0; Mismatches 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QBRXII ARATH PRELIMINARY; PRT; 500 AA
QBRXII;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity 100.
Matches 6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Nature 408:820-822(2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 338 DTFYYV 343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4 DTFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TAIR; At3g59080;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             INTERACTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=3702;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Name=At3g18490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ద
```

```
ö
Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NUCLEOTIDE SEQUENCE.
MEDINES-2027/480; Pubed=10819329; DOI=10.1093/dnares/7.2.131;
MEDINES-2027/480; Pubed=10819329; DOI=10.1093/dnares/7.2.131;
Sato S., Nakamura Y., Kaneko T., Katoh T., Asamizu E., Tabata S.;
"Structural analysis of Arabidopsis thaliana chromosome 3. I. Sequence features of the regions of 4,504,864 bp covered by sixty Pl and TAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Yamada K., Chan M.M., Chang C.H., Dale J.M., Hsuan V.W., Lee J.M., Quach H.L., Tang C.C., Toriumi M., Wallender E.K., Wong C., Wu H.C., Yu G., Yuan S., Chen H., Cheuk R., Jones T., Kim C.J., Nguyen M., Palm C.J., Shinn P., Southwick A., Tripp M.G., Wu T., Davis R.W., Ecker J.R., Theologis A., Submitted (SEP-2002) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryoča, Viridiplantae, Streptophyta, Embryophyta, Tracheophyta, Spermatophyta, Magnoliophyta, eudicotyledons, core eudicotyledons, rosids, eurosids II, Brassicales, Brassicaceae, Arabidopsis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sato S., Nakamura Y., Kaneko T., Kato T., Asamizu E., Tabata S.; Submitted (APR-1999) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-OCT-2000, sequence version 1.
21-FEB-2006, entry version 18.
CND41, chloroplast nucleoid DNA binding protein-like (Putative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 500;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           66.7%; Score 6; DB 2; Length 500;
100.0%; Pred. No. 1e+02;
.ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          500 AA; 53220 MW; A0CE7BC606BBAEE9 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-OCT-2000, integrated into UniProtKB/TrEMBL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 500 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL; AB026658; BAB01116.1; -; Genomic_DNA.
EMBL; AY150497; AAN13013.1; -; mRNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   chloroplast nucleoid DNA-binding protein).
                                                                                                                                                                                                                                                                                                                                                                                                                      PROSITE; PS00141; ASP_PROTEASE; UNKNOWN_1.
DNA-binding.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               HSSP; P20142; lAVP.

TAIR; At3g18490; --
CO, GO:0003677; P:Depsin A activity; IEA.
GO; GO:0004194; F:Pepsin A activity; IEA.
GO; GO:0006508; P:proteolysis; IEA.
InterPro; IPR001969; Pept_Asp_AS.
                                                                                         EMBL, AY080874; AAL87345.1; -; mRNA.
HSSP; P20142; 1AVF.
IntAct; OBRXII; -
GO; GO:0005515; F:protein binding; IPI.
InterPro; IPR001969; Pept Asp AS.
InterPro; IPR001960; Pept Aspartc_cat.
InterPro; IPR001461; Peptidase A1.
PANTHER; PTHX13683; Peptidase A1.
Pfam; PF00026; ASp; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       OrderedLocusNames=At3g18490;
Arabidopsis thaliana (Mouse-ear cress).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRELIMINARY; PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      clones.";
DNA Res. 7:131-135(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Local Similarity 100.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           342 DIFYYV 347
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4 DTFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=3702;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q<u>9</u>LS40_ARATH
Q9LS40;
```

Gaps

ö

```
Copyrighted by the UniFrot Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms
Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Oryza sativa (japonica cultivar-group).
Bukaryota, Viridiplantes, Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophysa; Liliopsida; Poales; Poaceae; BEP clade;
Ehrhartoideae; Oryzeae; Oryza.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-0CT-2000, integrated into UniProtKB/TrEMBL.
01-0CT-2000, sequence version 1.
07-FEB-2006, entry version 17.
Hypothetical protein F17J16_130 (AT3g59080/F17J16_130) (Hypothetical protein F17J16_130 (AT3g59080).
Name=F17J16_130; OrderedLocusNames=At3g59080;
              "Complete genome sequence of Bacillus thuringiensis 97-27."; Submitted (JUN-2004) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sasaki T., Mataumoto T., Yamamoto K.; "Oryza sativa nipponbare(GA3) genomic DNA, chromosome 2, PAC
                                                                                                                                                                                                                                             Length 512;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 2; Length 514;
                                                                                                                                                                                                                                                                                           0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Submitted (MAR-2002) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                             EMBL; AR017355; AATS8945.1; -; Genomic_DNA.
Complete protecome; Hypothetical protein.
SEQUENCE 512 AA; 58358 MW; 4FBB111563856EEB CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           514 AA; 54891 MW; 77653ACBD68094E1 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           05-JUL-2004, integrated into UniProtKB/TrEMBL.
05-UUL-2004, sequence version 1.
07-FEB-2006, entry version 9.
Putative chloroplast nucleoid DNA binding protein.
Name=P070SA04.34;
                                                                                                                                                                                                                                                                        1.1e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1.le+02;
                                                                                                                                                                                                                                      66.7%; Score 6; DB 2;
100.0%; Pred. No. 1.1e+C
iive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       514 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     535 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gramene; Q6Z6Q8; -...
Gramene; Q6Z6Q8; -...
GO; GO:0004194; F:pepsin A activity; IEA.
GO; GO:0006508; P:proteolysis; IEA.
InterPro; IPR009007; Pept Aspartc_cat.
InterPro; IPR001461; Peptidase_A1.
PANTHER; PTHR13683; Peptidase_A1; 2.
Pfam; PF00026; Asp; 1.
PRINTS; PR00792; PEPSIN.
SEQUENCE 514 AA; 54891 MW; 77653ACBD680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         66.7%; Score 6; DB 2
100.0%; Pred. No. 1.1
ive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL; AP004891; BAD15987.1; -; Genomic_DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRELIMINARY; PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity 100.v.
6; Conservative
                                                                                                                                                                                                                   Query Match
Best Local Similarity 100.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                               299 DTFYYV 304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  352 DTFYYV 357
                                                                                                                                                                                                                                                                                                                                    4 DTFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4 DTFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=39947;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             clone: P0705A04.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S8 ARATH
Q9LYS8_ARATH
Q9LYS8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QEZGOB ORYSA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORYSA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        06Z6Q8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q9LYS8 1
ID Q91
AC Q91
DT 01
DT 07
DE HY
GN Na
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        062608
ID 06
              ð
                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STRAIN=97-27;

Brettin T.S., Bruce D., Challacombe J.F., Gilna P., Han C., Hill K.,
Hitchcock P., Jackson P., Keim P., Longmire J., Lucas S., Okinaka R.,
Richardson P., Rubin B., Tice H.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].

Brettin T.S., Bruce D., Challacombe J.F., Gilna P., Han C., Hill K., Hitchcock P., Jackson P., Reim P., Longmire J., Lucas S., Okinaka R., Richardson P., Rubin B., Tice H.;

"Complete genome sequence of Bacillus cereus ZK.";
Submitted (JUL-2004) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                 66.7%; Score 6; DB 2; Length 500;
100.0%; Pred. No. 1e+02;
ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   66.7%; Score 6; DB 2; Length 512;
100.0%; Pred. No. 1.1e+02;
ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Hypothetical protein.
OrderedLocusNames=BCE33L0203;
Bacillus cereus (strain ZK / E33L).
Bacteria; Firmicutes; Bacillales; Bacillus;
Bacillus cereus group.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Bacillus thuringiensis subsp. konkukian.
Bacteria, Firmicutes; Bacillales; Bacillaceae; Bacillus;
Bacillus cereus group.
NCBI_TaxID=180856;
                                                                                                              DNA-binding.
SEQUENCE 500 AA; 53234 MW; P5DF2BICF9CB306C CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL; CP000001; AAU20030.1; -; Genomic DNA.
Complete proteome; Hypothetical protein.
SEQUENCE 512 AA; 58358 MW; DC9F2EFDDA617B50 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         25-OCT-2004, integrated into UniProtKB/TrEMBL. 25-OCT-2004, sequence version 1. 07-FBB-2006, entry version 10.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        19-JUL-2004, integrated into UnibrotKB/TrEMBL.
19-JUL-2004, sequence version 1.
07-FEB-2006, entry version 11.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
                                                                                                                                                                                                                                                                                                                                                                                                                                                512 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  512 AA.
InterPro; IPR009007; Pept Aspartc_cat.
InterPro; IPR001461; Peptidase Al_
BANTHER; PTHR13683; Peptidase Ā1; 1.
Pfan; PP00026; Asp; 1.
PROSITE; PS00141; ASP_PROTEASE; UNKNOWN_1.
                                                                                                                                                                                                                                                                                                                                                                                                                                              PRELIMINARY; PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OrderedLocusNames=BT9727 0199;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         07-PEB-2006, entry version 11. Hypothetical protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity 100...
                                                                                                                                                            Query Match
Best Local Similarity luv..
6; Conservative
                                                                                                                                                                                                                                                                                                                        342 DTFYYV 347
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            299 DTFYYV 304
                                                                                                                                                                                                                                                                               4 DTFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4 DTFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                           Q63G23_BACCZ
Q63G23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QEHPG6_BACHK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BACHK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q6HPG6;
                                                                                                                                                                                                                                                                                                                                                                                              RESULT 53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 54
                                                                                                                                                                                                                                                                                                                                                                                                                   OGHPG6 E

OGHPG6
  8888888888
                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
```

ö

Gaps

```
070068
                                                          Q50EJ4
                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Nguyen M., Karlin-Neumann G., Southwick A., Lam B., Miranda M., Palm C.J., Bowser L., Jones T., Banh J., Carninci P., Chen H., Cheuk R., Chung M.K., Hayashizaki Y., Ishida J., Kamiya A., Kawai J., Kim C., Lin J., Liu S.X., Narusaka M., Pham P.K., Sakano H., Sakurai T., Satou M., Seki M., Shinn P., Yamada K., Shinozaki K., Ecker J., Theologis A., Davis R.W.; Submitted (APR-2002) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Nguyen M., Karlin-Neumann G., Southwick A., Tripp M., Miranda M., Palm C.J., Bowesr L., Jones T., Banh J., Carninci P., Chen H., Cheuk R., Chung M.K., Hayashizaki Y., Ishida J., Kamiya A., Kawai J., Kim C., Lin J., Liu S.X., Narusaka M., Pham P.K., Sakano H., Sakurai T., Sakuro H., Shinn P., Yamada K., Shinozaki K., Submitted (SEP-2002) to the EMBL/GenBank/DDBJ databases.
                                                                                                                          D'Angelo M., Vezzi A., Modesto D., Pigazzi M., Valle G., Mewes H.W., Rudd S., Lemcke K., Mayer K.F.X., Quetier F., Salanoubat M.; Submitted (APR-2000) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                   Shinn P., Chen H., Cheuk R., Kim C.J., Koesema E., Meyers M.C., Banh J., Bowser L., Carninci P., Dale J.M., Goldsmith A.D., Hayashizaki Y., Ishida J., Jiang P.X., Jones T., Kamiya A., Karlin Neumann G., Kawai J., Lam B., Lee J.M., Lin J., Liu S.X., Miranda M., Narusaka M., Nguyen M., Onodera C.S., Palm C.J., Pham P. K., Quach H.L., Sakurai T., Satou M., Seki M., Southwick A., Tang C.C., Toriumi M., Yamada K., Yamamura Y., Yu G., Yu S., Shinozaki K., Davis R.W., Theologis A., Ecker J.R.; Submitted (SEP-2001) to the EMBL/GenBank/DDBJ databases.
                Eukaryota, Viridiplantae, Streptophyta, Embryophyta, Tracheophyta,
Spermatophyta, Magnoliophyta, eudicotyledons, core eudicotyledons,
rosids, eurosids II, Brassicales, Brassicaceae, Arabidopsis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 535;
                                                                                                                                                                                                                     EU Arabidopsis sequencing project;
Submitted (APR-2000) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRINTS; PR00792; PEPSIN.
PROSITE; PS00141, ASP PROTEASE; UNKNOWN_1.
Hypothetical protein.
SEQUENCE 535 AA; 59242 WW; 4C20AF38A2B66472 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         66.7%; Score 6; DB 2; Ler
100.0%; Pred. No. 1.1e+02;
ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL, AL163527; CAB86936.1; -; Genomic_DNA.
EMBL, AF424562; AAL11556.1; -; mRNA.
EMBL, BT000326; AAN15645.1; -; mRNA.
EMBL, AX099818; AAN20669.1; -; mRNA.
PIR; T47790, T47790.
HSSP, P07267; IFMX.
TAIR, AA359080; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GO; GO:0004194; P:pepsin A activity; IEA.
GO; GO:0065608; P:proteolyais; IEA.
InterPro; IPR001969; Pept Asp As.
InterPro; IPR001907; Pept Aspartc_cat.
InterPro; IPR001461; Pept Aspartc_cat.
PANTHER; PTHR15683; Peptidase A1.
Pfan; PP00026; Asp; 1.
Arabidopsis thaliana (Mouse-ear cress)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity 100.0
المالية وفي Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NUCLEOTIDE SEQUENCE.
                                                                                                         NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                    NUCLEOTIDE SEOUENCE.
                                                                                                                                                                                                                                                                           NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUCLEOTIDE SEQUENCE
                                                                       NCBI_TaxID=3702;
```

```
ö
                                                                                                                                                                                                                                                                                                                    Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms
Distributed under the Creative Commons Attribution-NoDerive License
                                                                                                                                                                                                                                                       Vera J.L., Santos F., Sesma F.J.M., Font de Valdez G., Hugenholtz J.; Submitted (OCT-2004) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Perla marginata (Stonefly).
Eukaryota, Metazoa, Arthropoda; Hexapoda; Insecta, Pterygota,
Neoptera, Plecoptera, Perloidea, Perlidae, Perla.
                                                                                                                                                                                                                                                                                                                                                                                                                                                        66.7%; Score 6; DB 2; Length 567; 100.0%; Pred. No. 1.2e+02; ative 0; Mismatches 0; Indels
                                                                                                                                         Bacteria; Firmicutes; Lactobacillales; Lactobacillaceae;
Lactobacillus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Submitted (APR-2003) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                   567 AA; 64982 MW; E5AA0430AC8C53AC CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; AJ555404; CAD87763.1; -; mRNA.
GO; GO:0005344; F:oxygen transporter activity; IEA.
GO; GO:0006310; P:transport; IEA.
InterPro; IPR000896; Hemocyanin.
InterPro; IPR005203; Hemocyanin. C.
InterPro; IPR005203; Hemocyanin. N.
InterPro; IPR005207; Tyrosinase.
PANTHER; PTHR11511; Hemocyanin; 1.
Pfam; PF003723; Hemocyanin; 1.
Pfam; PF003723; Hemocyanin. C; 1.
Pfam; PF00372; Hemocyanin. M: 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PubMed=14715904; DOI=10.1073/pnas.0305872101; Hagner-H01ler S., Schoen A., Erker W., Marden J.; R. respiratory hemocyanin from an insect."; Proc. Natl. Acad. Sci. U.S.A. 101:871-874 (2004).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      05-JUL-2004, integrated into UniProtKB/TrEMBL.
                                         07-JUN-2005, integrated into UniProtKB/TrEMBL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                671 AA.
                                                                                                  ATP-dependent nuclease subunit B (Fragment)
                                                                                                                                                                                                                                                                                                                                                                              EMBL; AY780645; AAX14552.1; -; Genomic_DNA.
NON TER 567 567
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRT;
                                                           07-JUN-2005, sequence version 1. 07-FEB-2006, entry version 3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      05-JUL-2004, sequence version 1. 07-FEB-2006, entry version 11. Hemocyanin subunit 2 precursor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q70068 PERMR PRELIMINARY;
Q70068;
  PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      6; Conservative
                                                                                                                       Lactobacillus reuteri.
                                                                                                                                                                                                                                                                                                                                                                                                       567
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                    NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NUCLEOTIDE SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best Local Similarity
Matches 6; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               33 DDTFYY 38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NCBI_TaxID=227363;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3 DDTFYY 8
                                                                                                                                                                                 NCBI_TaxID=1598;
                                                                                                                                                                                                                                        STRAIN=CRL1098;
Q50EJ4_LACRE
Q50EJ4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Burmester T.;
                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Name=hc2
                                                                                                                                                                                                                                                                                                                                                                                               TER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PERMR
```

Gaps

ö

0; Indels

ઠ

```
Shrhartoideae; Oryzeae; Oryza.
                                                     NCBI_TaxID=39947;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3 DDTFYY 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RANGE OF THE REPORT OF THE THE REPORT OF THE
                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              OTXXX7 ORYSA PRELIMINARY; PRT; 731 AA.

OTXXX7; QTX732;

O1-OCT-2003, integrated into UniProtKB/TrEMBL.

O1-MAR-2006, entry version 1.

O5-MAR-2006, entry version 14.

O5-NBA0063218.16 protein (OSJNBA0033G05.2 protein).

Name-SOSJNBA0063C18.16; Synonyms-OSJNBA0033G05.2;

OTYZA SATIVA (japonica cultivar-group).

Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Poaceae; BEP clade;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STRAIN-06:HI / CFT073 / ATCC 700928 / UPEC;
MEDLINE-22388234; PubMed=12471157; DOI=10.1073/pnas.25529799;
Welch R.A., Burland V., Plunkett G. III, Redford P., Roesch P.,
Rasko D., Buckles E.L., Liou S.-R., Boutin A., Hackett J., Stroud D.,
Mayhew G.F., Rose D.J., Zhou S., Schwartz D.C., Perna N.T.,
Mobley H.L.T., Donnenberg M.S., Blattner F.R.;
"Extensive mosaic structure revealed by the complete genome sequence
of uropathogenic Escherichia coli.";
Proc. Natl. Acad. Sci. U.S.A. 99:17020-17024(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; AEO14075; AAN78518.1; -; Genomic_DNA.
BioCyc; ECOL199310:C0018-MONOMER; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bacteria; Proteobacteria; Gammaproteobacteria; Enterobacteriales;
Enterobacteriaceae; Escherichia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                  66.7%; Score 6; DB 2; Length 671;
100.0%; Pred. No. 1.3e+02;
.ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        66.7%; Score 6; DB 2; Length 678; 100.0%; Pred. No. 1.3e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0; Indels
                                                                                                                                                                                                                                                                                   17 671 hemocyanin subunit 2.
671 AA; 77870 MW; 39A84D01C1DA98AD CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Complete protecme.
SEQUENCE 678 AA; 78223 MW; C9329675AC896AE9 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-MAR-2003, integrated into UniProtKB/TrEMBL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100.0%; Preu. ...
Pfam; PF03722; Hemocyanin N; 1.
PRINTS; PR0187; HAEMOCYANIN.
PROSITE; PS00209; HEMOCYANIN.1; 1.
PROSITE; PS00210; HEMOCYANIN.2; UNKNOWN 1.
PROSITE; PS00498; TYROSINASE_2; UNKNOWN.1.
                                                                                                                                                                                                                                                          Potential.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-MAR-2003, sequence version 1.
21-FEB-2006, entry version 11.
Putative glutamate dehydrogenase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity luv...
6, Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Escherichia coli 06.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 496 VDDTFY 501
                                                                                                                                                                                                                                                                                                                                                                                                                                           Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ||||||
19 VDDTFY 24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NCBI_TaxID=217992;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2 VDDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2 VDDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORFNames=c 0018;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 59
QBFLC6 ECOL6
ID QBFLC6_ECOL6
AC QBFLC6;
                                                                                                                                                                                                                                                                                                                            SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                     Signal.
SIGNAL
CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORYSA
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 60

(07XJX7 ORY

(07XJX7 ORX

AC

(07XJX7

AC

(07XJX7

DT

(01-OC

DT

(01-MA

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0.00 PLC 6.00 PLC 6.0
        844884FF8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠે
```

```
Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE=22684572; PubMed=12798231; DOI=10.1016/S0923-2508(03)00070-6; Krylov V.N., Pletenava B.A., Buckalateva M.V., Shaburova O.V., Volckaert G., Sykilinda N.N., Kurochkina L.P., Mesyanzhinov V.V.; "Myoviridae bacteriophages of Pseudomonas aeruginosa: a long and
                     MEDLINE=22337377; PubMed=12447439; DOI=10.1038/nature01183; Feng Q., Zhang Y., Hao P., Wang S., Fu G., Huang Y., Li Y., Zhu J., Liu Y., Hu X., Jia P., Zhang Y., Zhao Q., Ying K., Yu S., Tang Y., Heng Q., Zhang L., Lu Y., Mu J., Lu Y., Zhang L.S., Yu S., Fan D., Liu X., Lu T., Li C., Wu Y., Sun T., Lei H., Li T., Hu H., Guan J., Wu M., Zhang R., Zhou B., Chen L., Jin Z., Wang R., Yin H., Cai Z., Ren S., Lv G., Gw W., Zhu G., Tu Y., Jia J., Zhang Y., Chen J., Kang H., Chen X., Shao C., Sun Y., Hu Q., Zhang Y., Hang L., Ding C., Sheng H., Gu J., Chen S., Ni L., Zhu F., Chen W., Han B.; Lai Y., Cheng Z., Gu M., Jiang J., Li J., Hong G., Xue Y.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUCLEOTIDE SEQUENCE.
PubMed=15033869; DOI=10.1093/bioinformatics/btg456;
Lavigne R., Sun W.D., Volckaert G.;
"PHIRE, a deterministic approach to reveal regulatory elements in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=22389089; Pubmed=12500672;
Burkal'tseva M.V., Krylov V.N., Pleteneva B.A., Shaburova O.V.,
Krylov S.V., Volckaert G., Sykilinda N.N., Kurochkina L.P.,
Mebyanzhinov V.V.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pseudomonas phage phiEL.
Viruses; dsDNA viruses, no RNA stage; Caudovirales; Myoviridae.
NCBI_TaxID=273133;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "Phenogenetic characterization of a group of giant Phi KZ-like bacteriophages of Pseudomonas aeruginosa.";
Genetika 18:1470-1479(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 731;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 731 AA; 84804 MW; 6A02220495C5048B CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 6; DB 2; Les
Pred. No. 1.4e+02;
                                                                                                                                                                                                                                                                                                                                                                                                     "Sequence and analysis of rice chromosome 4."; Nature 420:316-320(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  20-DEC-2005, integrated into UniProtKB/TrEMBL. 20-DEC-2005, sequence version 1. 07-FEB-2006, entry version 3. Hypothetical protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 870 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL; AL731607; CAE05975.2; -; Genomic_DNA.
Gramene; Q7XJX7; -.; Genomic_DNA.
GO; GO:0007049; P:cell cycle; IEA.
InterPro; IPR001373; Cullin.
Pfam; PR0088; Cullin.
PRANT; SM00182; CulLIN; 1.
PROSITE; PS50069; CULLIN; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      100.0%; Pred. ac.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QZZ173_9CAUD PRELIMINARY; PRT;
QZZ173;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             complex evolutionary pathway.";
Res. Microbiol. 154:269-275(2003).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    66.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUCLEOTIDE SEQUENCE.
NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DDTFYY 625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity
```

```
NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUCLEOTIDE SEQUENCE.
                                  520 KVDDTF 525
    1 KVDDTF 6
                                                                                                                                                                                                                                                                                    NCBI_TaxID=7227;
                                유
    ò
                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                       Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                           Hertveldt K., Lavigne R., Pleteneva E., Sernova N., Kurochkina L.,
Korchevskii K., Robben J., Mesyanzhinov V., Krylov V.N., Volckaert G.;
"Genome Comparison of Pseudomonas aeruginosa Large Phages.";
J. Mol. Biol. 354:536-545 (2005).
                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Arabidopsis thaliana (Mouse-ear cress).
Wararyota, Viridiplantae, Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; eudicotyledons; core eudicotyledons; rosida; eurosida; erassicales; Brassicaceae; Arabidopsis.
                                                                                                                                                                                                                                                                                                      ő
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                     66.7%; Score 6; DB 2; Length 870; 100.0%; Pred. No. 1.6e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            66.7%; Score 6; DB 2; Length 892; llarity 100.0%; Pred. No. 1.7e+02; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NUCLEOTIDE SEQUENCE.
MCPherson C., Wohldmann P., Scronce D.;
Submitted (JUN-1999) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                      Hypothetical protein.
SEQUENCE 870 AA; 100611 MW; 57347C91E488C432 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Submitted (JUN-1999) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Submitted (AUG-1999) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PROSITE; PS5089; TISH; 1.
PROSITE; PS50896; LISH; 1.
PROSITE; PS50082; WD REPEATS_2; 1.
SEQUENCE 892 AA; 99780 MW; 2487A7C97E027AEF CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-MAY-2000, integrated into UniProtKB/TrEMBL.
                                                                                                                                                                                                    EMBL; AJ697969; CAG27102.1; -; Genomic_DNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL, AF160760, AAD48936.1; -; Genomic_DNA.
InterPro; IPR006595; CTLH_C.
InterPro; IPR006594; Li8H.
InterPro; IPR004060; WA40.
Pfam; PF00400; WD40; 4.
SWART; SM00668; CTLH; 1.
SWART; SM00667; Li8H; 1.
SWART; SM00667; Li8H; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-MAY-2000, sequence version 1.
07-FEB-2006, entry version 21.
 bacteriophage genomes.";
Bioinformatics 20:629-635(2004).
                                                                                                                                                                                                                                                                                                                                                                                                                                             PRELIMINARY;
                                                                                                                                                                                                                                                     Query Match
Best Local Similarity 100..
6; Conservative
                                               NUCLEOTIDE SEOUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CLEOTIDE SEQUENCE
                                                                                                                                                                                                                                                                                                                                                               60 DTFYYV 65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local Similarity
                                                                                                                                                                                                                                                                                                                                   σ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        F15P11.3 protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NCBI_TaxID=3702;
                                                              PubMed=16256135;
                                                                                                                                                                                                                                                                                                                                   4 DTFYYV
                                                                                                                                                                                                                                                                                                                                                                                                                                            Q9S9US_ARATH
Q9S9US;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Name=F15P11.3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 62
a
                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
```

```
PREMENT 63

PREMENT 63

PRINCIPLE BROWN PRELIMINARY, PRT, 894 AM.

CONTINUE 2002, SEQUENCE WISION 24.

DISTORATION OF CONTINUE PRELIMINARY, PRT, 894 AM.

CONTINUE 2002, SEQUENCE WISION 24.

DISTORATION OF CONTINUE PRELIMINARY, PRT, 894 AM.

DISTORATION OF CONTINUE PRELIMINARY, PRT, 894 AM.

DISTORATION OF CONTINUE PRELIMINARY PRT, 894 AM.

NORTHWANDER SEQUENCE.

DESCRIPTION OF CONTINUE PRELIMINARY PRT, 804 AM. AM. AM.

NORTHWANDER SEQUENCE.

DESCRIPTION OF CONTINUE PRELIMINARY PRT, 804 AM.

NORTHWANDER SEQUENCE.

DESCRIPTION OF CONTINUE PRELIMINARY PRT, 804 AM.

NORTHWANDER SEQUENCE.

DESCRIPTION OF CONTINUE PREMISERS OF CONTINUE PRELIMINARY PRELIMINARY PRELIMINARY PRELIMINARY PRELIMINARY PRELIMINARY PRESIDENCE.

DESCRIPTION OF CONTINUE PREMISERS OF CONTINUE PRESIDENCE.

NORTHWANDER SEQUENCE.

DESCRIPTION OF CONTINUE PREMISERS OF CONTINUE PRESIDENCE.

NORTHWANDER SEQUENCE.

DESCRIPTION OF CONTINUE PREMISERS OF CONTINUE PRESIDENCE.

NORTHWANDER SEQUENCE.

DESCRIPTION OF CONTINUE PREMISERS OF CONTINUE PRESIDENCE.

NORTHWANDER SEQUENCE.

DESCRIPTION OF CONTINUE PREMISERS OF CONTINUE PRESIDENCE.

NORTHWANDER SEQUENCE.

DESCRIPTION OF CONTINUE PREMISERS OF CONTINUE PRESIDENCE.

NORTHWANDER SEQUENCE.

DESCRIPTION OF CONTINUE PREMISERS OF CONTINUE PRESIDENCE.

NORTHWANDER SEQUENCE.

DESCRIPTION OF CONTINUE PREMISERS OF CONTINUE PRESIDENCE.

NORTHWANDER SEQUENCE.

DESCRIPTION OF CONTINUE PREMISERS OF CONTINUE PRESIDENCE.

NORTHWANDER SEQUENCE.

DESCRIPTION OF CONTINUE PRESIDENCE.

NORTHWANDER SECUENCE.

NORTHWANDER SEQUENCE.

NORTHWA
```

900 AA.

PRT;

PRELIMINARY;

```
Q9VPH1 DROME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                         WUCLEOTIDE SEQUENCE.
MEDLINE-22445(070; PubMed=12537573;
Kaminker J.S., Bergman C.M., Kronmiller B., Carlson J.W., Svirskas R., Patel S., Frise E., Wheeler D.A., Lewis S.E., Rubin G.M.,
Ashburner M., Celniker S.E.;
"The transposable elements of the Drosophila melanogaster euchromatin:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                       MEDLINE=22426069; PubMed=12537572;
Misra S., Crosby M.A., Mungall C.J., Matthews B.B., Campbell K.S.,
Hradecky P., Huang Y., Kaminker J.S., Millburn G.H., Prochnik S.E.,
Smith C.D., Tupy J.L., Whitfield E.J., Bayraktaroglu L., Berman B.P.
Bettencourt B.R., Celniker S.E., de Grey A.D.N.J., Drysdale R.A.,
Harris N.L., Richter J., Russo S., Schroeder A.J., Shu S.Q.,
Stappeton M., Yamada C., Ashburner M., Gelbart W.M., Rubin G.M.,
Patel S., Adams M., Champe M., Dugan S.P., Frise E., Hodgson A., George R.A., Hoskins R.A., Laverty T., Muzny D.M., Nelson C.R., Patelb J.M., Park S., Pfeiffer B.D., Richards S., Sodergren E.J., Svirskas R., Tabor P.E., Wan K., Stapleton M., Sutton G.G., Venter Weinstock G., Scherer S.E., Myers E.W., Gibbs R.A., Rubin G.M.; "Finishing a whole-genome shoftyn: release 3 of the Drosophila melanogaster euchromatic genome sequence."; Gibbs R.A., Rubin G.M.; Genome Biol. 3:RESEARCH0079-RESEARCH0079(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Submitted (JAN-2006) to the EMBL/GenBank/DDBJ databases.
-!- SUBCELLULAR LOCATION: Membrane; multi-pass membrane protein (By
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Berkeley Drosophila Genome Project,
Celniker S., Carlson J., Wan K., Pfeiffer B., Frise E., George R.,
Hoskins R., Stapleton M., Pacleb J., Park S., Svirskas R., Smith B.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Lewis S.E.; Annotation of the Drosophila melanogaster euchromatic genome: a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          66.7%; Score 6; DB 2; Length 894; 100.0%; Pred. No. 1.7e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Yu C., Rubin G.;
"Drosophila melanogaster release 4 sequence.";
Submitted (MAR-2000) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Genome Biol. 3: RESEARCH0084.1-RESEARCH0084.20(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Genome Biol. 3: RESEARCH0083.1-RESEARCH0083.22 (2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EMBL; AY069571; AAL39716.1; -; mRNA.
EMBL; AE003790; AAM70818.2; -; Genomic_DNA.
FlyBase; FBgn0033095; CG3409.
GO; GO:0016021; C:integral to membrane; IEA.
GO; GO:0016020; C:membrane; IEA.
GO; GO:0005215; F:transporter activity; IEA.
GO; GO:0006810; P:transport; IEA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    InterPro; IPR007114; MFS.
InterPro; IPR011701; MFS 1.
Pfam; PF07690; MFS 1; 1.
                                                                                                                                                                                                                                                                                                genomics perspective.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local Similarity 100.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                       NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           review."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  similarity).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         systematic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FlyBase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Loc
Matches
```

||||||| |DDTFYY 854 3 DDTFYY 8

849

ઠ

RESULT 64 Q9VPH1_DROME

```
RAY MEDLINE-20196006, PubMed=10731132; DOI=10.1126/science.287.5461.2185; RAY Andrabe 20196006, PubMed=10731132; DOI=10.1126/science.287.5461.2185; RAY Andrabe D.C. Celniker S.E., Holf R.M., Brans C.A., Gocayne J.D., Addraw B.D., Celniker S.E., Iti P.W., Holskins R.A., Galle R.F., George R.A., Lewis S.E., E.I. P.W., Holskins R.A., Galle R.F., Sutton G.G., Wortman J.R., Yandell M.D., Zhang O., Chen L.X., Millos G.L.G., RA Brandon R.C., Rogers Y.-H.C., Blazel R.G., Champe M., Ffeiffer B.D., R. Brandon R.C., Rogers Y.-H.C., Blazel R.G., Champe M., Ffeiffer B.D., R. Bellew R.M., Basu A., Baxendale J., Bayraktaroglu L., Becalley E.M., Ballew R.M., Basu A., Baxendale J., Bayraktaroglu L., Becalley E.M., Ballew R.M., Basu A., Baxendale J., Brokstein P., Borchish C., Borkova D., Botchen M.R., Bouck J., Brokstein P., Brothish C., Bolden D.A., Buller H., Cadieu E., Center A., Chandra I., R. Buckova D., Botchen M.R., Bouck J., Brokstein P., Brothish C., Chariellan A.E., Garze C., Ferraz C., Ferraz C., Ferraz C., Cherry J.M., Cawley S., Dulkov B.C., Dunn P., Buthin K.J., Evangelista C.C., Ferraz C., Gelbart W.M., Glasser K., Gong F., Gorrell J.H., Gu Z., Gelbart W.M., Glasser K., Andraw P., Houston K.A., Houston K.A., Helman T.J., Hernandez J.R., Houck J., Alain M., Kalush F., Karpen G.H., Ke Z., Kulp D., Lai Z., Liang Y., Lin X., Liasko P., Lei Y., Levitsky A.A., Li J.H., Li Z., Liang Y., Lin X., Liu Y., Maytei B., McIntosh T.C., McIeod M.P., Park Nount S.M., Moy M., Murphy B., Murphy D.M., Nelson D.L., Ashen H., Shue R., Shue B.C., Siden-Kiamos I., Simpson M., Stupski M.P., Smith T., Spirskas R., Tector C., Turner R., Vennico B., Spirskas R., Wang Z.-Y., Wassarman D.A., Weinsenberd J., Stingson M., Stupski M., Shue B., Shue B.C., Shand Y., Shue R., Shue B.C., Shand Y., Wang Z.-Y., Wassarman D.A., Weinsenberg J.C., Shue M., Shue B.C., Shand Y., 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=2246065; PubMed=12537568; Celniker S.E., Wheeler D.A., Kronmiller B., Carlson J.W., Halpern A., Patel S., Adams M., Champe M., Dugan S.P., Frise E., Hodgson A., Patel S.A., Habsins R.A., Laverty T., Muzny D.M., Nelson C.R., Pacleb J.M., Park S., Pfeiffer B.D., Richards S., Sodergren B.J., Svirskas R., Tabor P.E., Wan K., Stapleton M., Sutton G.G., Venter C., Weinschock G., Scherer S.B., Myers E.W., Glbbs R.A., Rubin G.M.; Finishing a whole-genome shotgun: release 3 of the Drosophila melanogaster euchromatic genome sequence."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Kaminker J.S., Bergman C.M., Kronmiller B., Carlson J.W., Svirskas R., Patel S., Frise E., Wheeler D.A., Lewis S.E., Rubin G.M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Patel S., Frise E., Wheeler D.A., Lewis S.E., Rubin G.M.,
Ashburner M., Celniker S.E.,
"The transposable elements of the Drosophila melanogaster euchromatin:
a genomics perspective.";
                                                                                                                                                          Drosophila melanogaster (Fruit fly).
Eukaryota, Metazoa, Arthropoda, Hexapoda, Insecta, Pterygota,
Neoptera, Endopterygota, Diptera, Brachycera, Muscomorpha,
                                            01-MAY-2000, integrated into UniProtKB/TrEMBL. 01-MAY-2000, sequence version 1.
                                                                                                                                                                                                                                   Ephydroidea; Drosophilidae; Drosophila.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE=22426070; PubMed=12537573;
                                                                                                                                      Name=Toll-9; ORFNames=Dmel CG5528;
                                                                                          07-FEB-2006, entry version 25.
CG5528-PA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                        NUCLEOTIDE SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                         NCBI_TaxID=7227;
```

```
Local Similarity 100.
nes 6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      preliminary data.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               340 DTFYYV 345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Neurospora crassa.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4 DTFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NCBI_TaxID=5141;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEC8 NEUCR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEC8_NEUCR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 66
      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                    MUCLEOTIDE SEQUENCE.
MEDLINE=22426069; PubMed=12537572;
MEDLINE=22426069; PubMed=12537572;
Mistra S., Crosby M.A., Mungall C.J., Matthews B.B., Campbell K.S.,
Hradecky P., Huang Y., Kaninker J.S., Millburn G.H., Prochnik S.E.,
Smith C.D., Tupy J.L., Whitfield E.J., Bayraktaroglu L., Berman B.P.,
Bettencourt B.R., Celniker S.E., de Grey A.D.N.J., Drysdale R.A.,
Harris N.L., Richter J., Russo S., Schroeder A.J., Shu S.Q.,
Stapleton M., Yamada C., Ashburner M., Gelbart W.M., Rubin G.M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                Berkeley Drosophila Genome Project,
Celniker S., Carlson J., Wan K., Pfeiffer B., Frise E., George R.
Hoskins R., Stapleton M., Pacleb J., Park S., Svirskas R., Smith
                                                                                                                                                                                                                                     Annotation of the Drosophila melanogaster euchromatic genome: a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gibberella zeae (Fusarium graminearum).
Eukaryota, Fungi, Ascomycota, Pezizomycotina, Sordariomycetes,
Hypocreomycetidae, Hypocreales, Nectriaceae; Gibberella.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STRAIN=PH-1 / NRRL 31084;
Birren B.W., Nusbaum C., Abouelleil A., Allen N., Anderson S.,
Arachchi H.M., Barna N., Bastien V., Bloom T., Boguslavkiy L.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 900;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                      "Drosophila melanogaster release 4 sequence.";
Submitted (MAR-2000) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Submitted (JAN-2006) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        104013 MW; 627062202C192062 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HSSP; Q15599; IFYV.
FlyBase; FBgn0036978; Toll-9.
GO; GO:0016020; C:membrane; IEA.
GO; GO:0004888; F:transmembrane receptor activity; IEA.
                                                                                                                                                                                                                                                                systematic review.";
Genome Biol. 3:RESEARCH0083.1-RESEARCH0083.22(2002).
Genome Biol. 3:RESEARCH0084.1-RESEARCH0084.20(2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 66.7%; Score 6; DB 2; Ler 100.0%; Pred. No. 1.7e+02; ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               14.70.7.
16.4UG-2005, integrated into UniProtKB/TrEMBL.
16.4UG-2005, sequence version 1.
07.FRB-2006, entry version 4.
Hypothetical protein.
OKFNAmes=FG06999.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NUCLEOTIDE SEQUENCE (LARGE SCALE GENOMIC DNA).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRELIMINARY; PRT; 1080 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL; AE003591; AAF51581.1; -; Genomic_DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    InterPro; IPR001611; LRR.
InterPro; IPR003591; LRR.typ.
InterPro; IPR000157; TIR.
Pfam; PF00560; LRR.1; 6.
Pfam; PF01582; TIR; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRINTS; PRO0019; LEURICHRPT.
SMART; SM00369; LRR TYP; 1.
SMART; SM00255; TIR; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PROSITE; PS50104; TIR;
                                                                                                                                                                                                                                                                                                           [5]
NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        900 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                304 DTFYYV 309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4 DTFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                    ru C., Rubin G.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID=5518;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q41709 GIBZE
Q41709;
                                                                                                                                                                                                                     Lewis S.E.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FlyBase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GIBZE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AC DOT 1709 DE DOT 164 DOT 164
ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                유
```

```
RA Boukhgalter B., Butler J., Calvo S.E., Camarata J., Chang J.,
Rh Choepel Y., Collymore A., Cooke P., Corum B., DeArellano K.,
Diaz J.S., Dodge S., Dooley K., Dorris L., Elkins T., Engels R.,
Erickson J., Farreira P., Fitzeerald M., Gage D.,
Rh Erickson J.E., Gardyna S., Gnerre S., Graham L., Grand-Pierre N.,
Ralagon J.E., Gardyna S., Gnerre S., Graham L., Grand-Pierre N.,
Rh Hafez N., Hagopian D., Hagos B., Hall J., Horton L., Hulme W.,
Rh Liev I., Jaffe D., Johnson R., Jones C., Kamal M., Kamat A.,
Rh Anning J., Mathews C., Landers T., Levine R., Lindblad-Toh K., Liu G.,
Lui A., Ma L.-J., Mabbitt R., MacLean C., Macdonald P., Najor J.,
Rh Manning J., Mathews C., Maucheli E., McCarthy M., Meldrim J.,
Rheneus L., Mihova T., Mlenga V., Murphy T., Naylor J., Nguyen C.,
Rh Micol R., Nielsen C.B., Norbu C., O'Connor T., O'Donnell P.,
Rh O'Neil D., Oliver J., Peterson K., Phunkhang P., Pierre N.,
Rhogov P., Ramasamy U., Raymond C., Retta R., Rise C.,
Rh Smirnov S., Smith C., Spencer B., Stange-Thomann N., Stojanovic N.,
Stubbs M., Talamas J., Tesfaye S., Theodore J., Topham K., Travers M.
Walander H., Venkataraman V.S., Viel R., Vo A., Wang S., Wilson B.,
Rh Lander E.S.,
Raden B., Zaimoun J., Zembek L., Zimmer A., Zody M.,
Rh Lander E.S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms
Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUCLECTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
STRAIN=7-0R23-1A / FGSC 987;
MEDLINE=22598136; Pubmed=1271377; DOI=10.1038/nature01554;
Galagan J.E., Calvo S.E., Borkovich K.A., Selker E.U., Read N.D.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "Fusarium graminearum genome sequence.";
Submitted (FEB-2004) to the EMBL/GenBank/DDBJ databases.
-!- CAUTION: The sequence shown here is derived from an
EMBL/GenBank/DDBJ whole genome shotgun (WGS) entry which is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STRAIN=74-0R23-1A / FGSC 987;
MEDLINE=22542210; PubMed=12655011; DOI=10.1093/nar/gkg293;
Mannhaupt G., Montrone C., Haase D., Mewes H.-W., Aign V.,
Hoheisel J.D., Fartmann B., Nyakatura G., Kempken F., Maier J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes;
Sordariomycetidae; Sordariales; Sordariaceae; Neurospora.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Schulte U.; n' the genome of a filamentous fungus? Analysis of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 6; DB 2; Length 1080;
Pred. No. 1.9e+02;
0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL; AACM01000290; EAA75944.1; -; Genomic_DNA.
GO; GO:0000145; C:exocyte; IEA.
GO; GO:0015031; P:protein transport; IEA.
GO; GO:006904; P:vesicle docking during exocytosis; IEA.
Complete proteome; Hypothetical protein.
SEQUENCE 1080 AA; 121264 MW; E8310A2DE90F99BB CRC64.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q9HEBB; Q787Q7;
25-OCT-2002, integrated into UniProtKB/Swiss-Prot.
01-MAR-2001, sequence version 1.
07-FEB-2006, entry version 29.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Probable exocyst complex component sec8.
Name=sec-8; ORFNames=B13020.150, NCU04190;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Neurospora genome sequence.";
Nucleic Acids Res. 31:1944-1954(2003).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                66.7%; Scor
100.0%; Pre
```

```
Ensembl; W02B8.2; Caenorhabditis elegans.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CAEBR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 68
Q61VN1 CAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HID DE REAL PROPERTY OF THE PR
A Jaffe D., FitzHugh W., Ma L.-J., Smirnov S., Purcell S., Rehman B., Bikins T., Engels R., Wang S., Nielsen C.B., Butler J., Endrizzi M., Qui D., Inankiev P., Ball-Pedersen D., Nelson M.A.,

A Qui D., Inankiev P., Ball-Pedersen D., Nelson M.A.,

A Werner-Washburne M., Selitremnikoff C.P., Kinsey J.A., Braun E.L.,

A Marcotte E., Greenberg D., Roy A., Foley K., Naylor J.,

A Range-Thomann N., Barrett R., Gnerre S., Kamal M., Kamvysselis M.,

A Range-Thomann N., Barrett R., Frishman D., Krystofova S.,

A Ranussen C., Merzanberg R.L., Perkins D.D., Kroken S., Cogoni C.,

A Marcino G., Catcheside D.E.A., Pratt R.J., Osmani S.A.,

DeSouza C.P.C., Glass N.L., Orbach M.J., Berglund J.A., Voelker R.,

A Natden O., Plamann M., Selier S., Dunlap J.C., Radford A., Aramayo R.,

A Marchon D.O., Alex L.A., Mannhaupt G., Ebbole D.J., Freitag M.,

Paulsen I., Sachs M.S., Lander B.S., Nusbaum C., Birren B.W.;

The genome sequence of the filamentous fungus Neurospora crassa.";

R. Mature 422:859-868(2003).

C. -I- FUNCTION: Component of the exocyst complex involved in the docking of exitial fusions site on the plasma membrane (By
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms
Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms
Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CHAIN 1 1111 Probable exocyst complex component sec8.

/FTIG=PRO 0000118940.

SEQUENCE 1111 AA; 124417 MW; 6AC72D46750E7D0B CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa; Nematoda; Chromadorea; Rhabditida; Rhabditoidea;
Rhabditidae; Peloderinae; Caenorhabditis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
STRAIN=Bristol N2;
MEDLINE=99069613; PubMed=9851916; DOI=10.1126/science.282.5396.2012;
                                                                                                                                                                                                                                                                                                                                                                                                                                                             -!- SUBUNIT: The exocyst complex is composed of SEC3, SEC5, SEC6, SEC8, SEC10, SEC15, EXO70 and EXO84 (By similarity).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The C. elegans sequencing consortium; "Genome sequence of the nematode C. elegans: a platform for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 1111;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            66.7%; Score 6; DB 1; Length ....
100.0%; Pred. No. 2e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL; AABX01000274; EAA31914.1; -; Genomic DNA.
BioCyc; NCRA-XX3-01:NCRA-XX3-01-007938-MONOMER;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-NOV-1999, integrated into UniProtKB/TrEMBL. 01-NOV-1999, sequence version 1. 07-EBS-2006, entry version 32. Hypothetical protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                \overline{O9XVH4} CAEEL PRELIMINARY; PRT; 1256 AA. O9XVH4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL; AL451015; CAC18205.1; -; Genomic DNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      100.0%; Prec. ...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Exocytosis, Protein_transport, Transport.
CHAIN 1 1111 Probable exoc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EMBL; Z81136; CAB03458.1; -; Genomic_DNA.
PIR; T26101; T26101.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            investigating biology.";
Science 282:2012-2018(1998).
-!- SIMILARITY: Contains 1 PH domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  InterPro; IPR007191; Sec8 exocyst.
Pfam; PF04048; Sec8 exocyst; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Caenorhabditis elegans.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                338 DTFYYV 343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4 DIFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                     similarity).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NCBI TaxID=6239;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORFNames=W02BB.2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
```

```
Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gapa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa; Nematoda; Chromadorea; Rhabditida; Rhabditoidea;
Rhabditidae; Peloderinae; Caenorhabditis.
NCBI_TaxID=6238;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Stein L.D., Bao Z., Blasiar D., Blumenthal T., Brent M.R., Chen N., Chinwalla A., Clarke L., Clee C., Coghlan A., Coulson A., D'Eustachio P., Fitch D.H.A., Fulton L.A., Fulton R.B., Gariffiths-Jones S., Harris T.W., Hillier L.W., Kamath R., Kuwabara P.E., Mardis E.R., Marra M.A., Miner T.L., Minx P., Mullikin J.C., Plumb R.W., Rogers J., Schein J.E., Sohrmann M., Spieth J., Stajich J.E., Wei C., Willey D., Wilson R.K., Durbin R., Waterston R.H.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         comparative genomics.";
PLOS Biol. 1:166-192(2003).
-!- CAUTION: The sequence shown here is derived from an EMBL/GenBank/DDBJ whole genome shotgun (WGS) entry which is preliminary data.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "The genome sequence of Caenorhabditis briggsae: a platform for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
R MormBase; Wacabolilis elegans.

R WormBase; Wacabolilis elegans.

R WormBase; Wacabolilis Woles.2.

R WormBase; Wacabolilis Woles.2.

R GO; GO:0007242; F:mall Grpsee regulator activity; IEA.

GO; GO:0007242; P:intracellular signaling cascade; IEA.

InterPro; IPR001180; Citron.

R InterPro; IPR001189; PH-type.

R InterPro; IPR011993; PH-type.

R Pfam; PR00130; Cl 1; 1.

R Pfam; PF0010130; Cl 1; 1.

R SWART; SW000169; PH; 1.

R SWART; SW000169; CNH; 1.

R SWART; SW000169; CNH; 1.

R PROSITE; PS50001; ZF_DAG_PE 2; 1.

R PROSITE; PS50001; ZF_DAG_PE 2; 1.

Complete protecme; Hypochfetical protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 2; Length 1256; 5. 2.2e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL; CAACO1000021; CAEG1028.1; -; Genomic DNA.
GO; GO:0005083; P:small GTPase regulator activity; IEA.
GO; GO:0007242; P:intracellular signaling cascade; IEA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PubMed=14624247; DOI=10.1371/journal.pbio.0000045;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           23-NOV-2004, integrated into UniProtKB/TrEMBL. 23-NOV-2004, sequence version 1. 07-FBB-2006, entry version 11. Hypothetical protein CBG04771.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q\overline{6}1VN1 CAEBR PRELIMINARY; PRT; 1284 AA. Q61VN1\overline{i}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                100.0%; Prec. ...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               66.7%; Score 6; I
100.0%; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           InterPro; IPR001180; Citron.
InterPro; IPR002219; DAG PB bd.
InterPro; IPR011993; PH Type.
Pfam; PF00780; CNH; 1.
SMART; SM00109; C1; 1.
SMART; SM00036; CNH; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity 100.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Caenorhabditis briggsae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1096 DTFYYV 1101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4 DTFYYV 9
```

```
Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                        Rasko D.A., Ravel J., Oekstad O.A., Helgason E., Cer R.Z., Jiang L., Shores K.A., Fouts D.E., Tourasse N.J., Angluoli S.V., Kolonay J.F., Nelson W.C., Kolstoe A.-B., Fraser C.M., Read T.D.; "The genome sequence of Bacillus cereus ATCC 10987 reveals metabolic adaptations and a large plasmid related to Bacillus and analysis plasmid related to Bacillus anthracis pXOI."; Nucleic Acids Res. 32:977-988 (2004).
                                                                                                                                               Bacillus cereus (strain ATCC 10987).
Bactilia; Firmicutes; Bacillales; Bacillus;
Bacillus cereus group.
NCBI_TaxID=222523;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 55.6%; Score 5; DB 2; Length 51; Best Local Similarity 100.0%; Pred. No. 2.4e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL; AE017194; AAS40111.1; -; Genomic DNA.
Complete proteome; Hypothetical protein.
SEQUENCE 51 AA; 5976 MW; E259DD9994414B92 CRC64;
                                                                                                                                                                                                                                          [1]
NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
PubMed=14960714; DOI=10.1093/nar/gkh258;
                               JS-JUL-2004, integrated into UniProtKB/TrEMBL.
                                                  05-JUL-2004, sequence version 1.
07-FEB-2006, entry version 9.
Hypotherical protein.
ORFNames-BCE_1181;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      43 TFYYV 47
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5 TFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NCBI_TaxID=1351;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Fraser C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 71
           ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      쉽
                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Copyrighted by the UniFrot Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                           01-NOV-1996, integrated into UniProtKB/TrEMBL.
01-NOV-1996, sequence version 1.
07-FEB-2006, entry version 36.
NYPothetical protein.
0RFNames=F59A6.5;
Caenorabaditis elegans.
Ebkaryota, Metazoa; Nematoda; Chromadorea; Rhabditidae; Rhabditoidea;
Rhabditidae; Peloderinae; Caenorabaditis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STRAIN=Bristol N2;
MEDLINE=99069613; PubMed=9851916; DOI=10.1126/science.282.5396.2012;
                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The C. elegans sequencing consortium; "Genome sequence of the nematode C. elegans: a platform for
                                                                                             66.7%; Score 6; DB 2; Length 1284; 100.0%; Pred. No. 2.2e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 1286;
PROSITE; PS50081; ZF DAG PE 2; 1.
Complete proteome; Hypothetical protein.
SEQUENCE 1284 AA; 148978 MW; 8C34675D3535D450 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PROSITE; PS50003; PH DOMAIN; 1.
PROSITE; PS50081; ZF_DAG PE 2; 1.
Complete proteome; Hypothetical protein.
SEQUENCE 1286 AA; 148667 MW; 1402C3A80DC12BE4 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL; U41994; AAX31526.1; -; Genomic_DNA.
PIR; T16507; T16507.
Ensembl; F59A6.5; Caenorhabditis elegans.
Wormbase; WBGene00019087; F59A6.5.
Wormbey; F59A6.5; CE02790.
G0; G0:0005081; F:small GTPase regulator activity; IEA.
G0; G0:0007242; P:intracellular signaling cascade; IEA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            66.7%; Score 6; DB 2; Les
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              51 AA.
                                                                                                                                                                                                                                                                                                                                                     PRELIMINARY; PRT; 1286 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100.0%; Prec. ...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -1- SIMILARITY: Contains 1 PH domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  InterPro; IPR001180; Citron.
InterPro; IPR00219; DAG_PE_bd.
InterPro; IPR011849; PH.
InterPro; IPR011993; PH_type.
Pfam; PF00130; Cl_1; 1.
Pfam; PF00169; Cl_1; 1.
Pfam; PF00169; PH; 1.
SMART; SM00109; Cl; 1.
SMART; SM00133; PH; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 investigating biology.";
Science 282:2012-2018(1998).
                                                                                                                                               6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     6; Conservative
                                                                                                                                                                                                                                  1123 DTFYYV 1128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1120 DTFYYV 1125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity
                                                                                               Query Match
Best Local Similarity
                                                                                                                                                                                       4 DTFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4 DTFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NCBI_TaxID=6239;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 70
Q73C85_BACC1
ID Q73C85_BACC1
                                                                                                                                                                                                                                                                                                                                                     QZ1025_CAEEL
Q21025;
                                                                                                                                                                                                                                                                                                   RESULT 69
021025 CAB
102025 CAB
1
                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
       S K B
                                                                                                                                                                                          ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
```

Gaps

; 0

```
Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                    WUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
STRAIN=V583 / ATCC 700802;
MDEDLINE=22550857; PubMed=12663927; DOI=10.1126/science.1080613;
Pauleen I.T., Banerjei L., Myers G.S.A., Nelson K.E., Seshadri R.,
Read T.D., Fouts D.E., Eisen J.A., Gill S.R., Heidelberg J.F.,
Tettelin H., Dodson R.J., Umayam L.A., Brinkec L.M., Beanan M.J.,
Daugherty S.C., DeBoy R.T., Durkin S.A., Kolonay J.F., Madupu R.,
Nelson W.C., Vamathevan J.J., Tran B., Upton J., Hansen T., Shetty J.,
Khouri H.M., Utterback T.R., Radune D., Ketchum K.A., Dougherty B.A.,
                                                                                                                                                                                                                                          OrderedicousNames=EF0621; ORFNames=EF 0621;
Enterococcus faecalis (Streptococcus Faecalis).
Bacteria; Firmicutes; Lactobacillales; Enterococcaceae; Enterococcus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Role of mobile DNA in the evolution of vancomycin-resistant
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 2; Length 56;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Complete proteome; Hypothetical protein.
SEQUENCE 56 AA; 6873 MW; B513B3961EFDDB3B CRC64;
                                                                                      01-JUN-2003, integrated into UniProtKB/TrEMBL.
                56 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EMBL; AE016830; AAO80448.1; -; Genomic_DNA.
TIGR; EF0621; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     55.6%; Score 5;
            PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BioCyc; EFAE226185:EF0621-MONOMER;
                                                                                                                           01-JUN-2003, sequence version 1. 07-FEB-2006, entry version 8. Hypothetical protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Science 299:2071-2074 (2003).
Q838E6_ENTFA PRELIMINARY;
Q838E6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Enterococcus faecalis.
```

Gaps

ö

0; Indels Length 70;

3.1e+02;

```
Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
             Ivanova N., Sorokin A., Anderson I., Galleron N., Candelon B., Kapairal V., Bhattacinaryya A., Reznik G., Mikhailova N., Lapidus A., Gul. L., Mazur M., Goltsman E., Larsen N., D'Souza M., Walunas T., Grechkin Y., Pusch G., Haselkorn R., Ponstein M., Ehrlich S.D., Overbeek R., Kyrpides N.C.; Genome sequence of Bacilus cereus and comparative analysis with Bacilus anthracis.";
                                                                                                                                                                                                    Complete proteome, Hypothetical protein.
SEQUENCE 70 AA, 8113 MW, E5E3F6E07AC6AC42 CRC64;
                                                                                                                                                                                                                                             55.6%; Score 5; DB 2;
                                                                                                                                                                                                                                                  100.0%; Prec. ...
                                                                                                                                                                          EMBL; AE016877; AAP08066.1; -; Genomic_DNA.
BioCyc; BCER226900:BC1079-MONOMER; -.
                                                                                                                                                                                                                             Query Match
Best Local Similarity 100.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5; Conservative
                                                                                                        Nature 423:87-91(2003).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                         44 TFYYV 48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             35
                                                                                                                                                                                                                                                                                               S TFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ß
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NCBI_TaxID=4686;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   31 KVDDT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 KVDDT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Zinc-finger.
                                                                                                                                                                                                                                                                                                                                                                                           RS27A ASPOF
P31753;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ZN FING
COMPBIAS
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                          ASPOF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                   ESTAIN-EM-1:MSS;

W PubMed=15729342; DOI=10.1038/nature03391;
W PubMed=15729342; DOI=10.1038/nature03391;
W Anderson I., Davies R., Alsmark U.C., Samuelson J.,
A Loftus B.J., Anderson I., Davies R., Hirt R.P., Mann B.J., Nozaki T.,
W Andelo P., Roncaglia P., Berriman M., Hirt R.P., Mann B.J., Nozaki T.,
W Hofer M., Bruchhaus I., Willhoeft U., Bhattacharya A.,
W Chillingworth T., Churcher C.M., Hance Z., Harris B., Harris D.,
W Antichead S., Quall M.A., Rabbinowitsch E., Norbertcaak H., Price C.,
W Mintehead S., Quall M.A., Rabbinowitsch E., Norbertcaak H., Price C.,
W Mintehead S., Quall M.A., Petrit W.A., Clark C.G., Embley T.M.,
A Mikherjee C., El-Sayed N.M., Petrit W.A., Clark C.G., Embley T.M.,
Barrell B.G., Fraser C.M., Hall N.,
The genome of the protist parasite Entamoeba histolytica.",
NILLE 4331865-868(2005).
                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -1- CAUTION: The sequence shown here is derived from an EMBL/GenBank/DDBJ whole genome shotgun (MGS) entry which is preliminary data.
                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
MEDLINE=22608415; PubMed=12721630; DOI=10.1038/nature01582;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Hypothetical protein.

OrderedLocusNames=BC1079; ORFNames=BC 1079;
Bacilus ceres (strain ATCC 14579 / DSM 31).
Bacteria; Franicutes; Bacillales; Bacillus cereus group.

NCBI_TAXID=226900;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          55.6%; Score 5; DB 2; Length 60;
100.0%; Pred. No. 2.7e+02;
tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   60 AA; 6772 MW; FDD913B60C39BEB2 CRC64;
           Pred. No. 2.6e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL; AAFB01000272; EAL48420.1; -; Genomic_DNA.
                                                                                                                                                                      07-JUN-2005, integrated into UniProtKB/TrEMBL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-JUN-2003, integrated into UniProtKB/TrEMBL, 01-JUN-2003, sequence version 1. 007-FBB-2006, entry version 10. Hypochetical protein.
                                                                                                                                              60 AA
                                                                                                                                                                                                                         ORFNames=72.t.00018;
Entamocba hisrolytica HM-1:IMSS.
Bukaryota; Entamocbidae; Entamocba.
NCBI_TaxID=294381;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRELIMINARY; PRT;
100.0%; Pre-
                                                                                                                                                                                     07-JUN-2005, sequence version 1.
07-FEB-2006, entry version 3.
Hypothetical protein.
                                                                                                                                           PRELIMINARY;
     Best Local Similarity 100.
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Local Similarity 100.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Hypothetical protein.
                                                                                                                                                                                                                                                                                 [1]NUCLEOTIDE SEQUENCE.
                                                                           40 DTFYY 44
                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          32 KVDDT 36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 KVDDT 5
                                                  4 DTFYY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QBlGV6_BACCR
Q81GV6;
                                                                                                                                        0514Y7 ENTHI
                                                                                                                                                                                  07-JUN-2005,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BACCR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 73
                                                                                                                            081GV6
                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                           Copyrighted by the UniFrot Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gapa
                                01-JUL-1993, integrated into UniProtKB/Swiss-Prot.
01-JUL-1993, sequence version 1.
01-JUL-1993, sequence version 1.
07-MR-2006, entry version 34.
40S ribosomal protein 527a.
48sparagus officinalis (Garden asparagus).
Eukaryota, Viridiplantae, Streptophyta, Embryophyta, Tracheophyta, Spermatophyta, Magnoliophyta, Liliopsida, Asparagales, Asparagaceae,
                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PIR; S25001; S25001.
Interpro; IPR002906; Ribosomal_S27a.
Pfam; PP01599; Ribosomal_S27; 1.
Metal-binding; Ribonucle©protein; Ribosomal protein; Zinc;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 78;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      40S ribosomal protein S27a.
/FTId=PRO_0000137677.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           C4-type. -
Lys-rich (highly basic).
30D5DB61F5B7A89F CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 1; Le1
78 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL; X66875; CAA47346.1; ALT_INIT; mRNA.
PIR; S25001; S25001.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 5; D
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         55.6%; Scc...
100.0%; Pre
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   78 AA; 9061 MW;
STANDARD;
```

```
EMBL; AAJC0100001; EAO12126.1; -; Genomic_DNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Zinc-finger.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPBIAS
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STRAIN=K5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ZN FING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9GAMM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q3GRU9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
DATA BERNARA B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NUCLEOTIDE SEQUENCE [MRNA] (UBI3).
STRAIN=cv. Lemhi Russet; TISSUE=Tuber;
MEDLINE=93100476; PubMed=137270;
Garbarino J.E., Rockhold D.R., Belknap W.R.;
"Expression of stress-responsive ubiquitin genes in potato tubers.";
Plant Mol. Biol. 20:235-244(1992).
                                                                                                                                                                                                                                                                                                                            Eukaryota, Viridiplantae, Streptophyta, Embryophyta, Tracheophyta, Spermatophyta, Magnoliophyta, eudicotyledons, core eudicotyledons, asterids, lamids, Solanales, Solanaceae, Solanum, Lycopersicon.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota, Viridiplantae, Streptophyta, Embryophyta, Tracheophyta,
Spermatophyta, Magnoliophyta, eudicotyledons, core eudicotyledons,
asterids, lamids, Solanales, Solanaceae, Solanum.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Hoffman N.E., Ko K., Milkowski D., Pichersky E.;
"Isolation and characterization of tomato cDNA and genomic clones encoding the ubiquitin gene ubi3.",
Plant Mol. Biol. 17:1189-1201(1991).
-!- MISCELLANEOUS: This ribosomal protein is synthesized as a Cterminal extension protein (CEP) of ubiquitin.
-!- SIMILARITY: Belongs to the ribosomal protein S27Ae family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Metal-binding; Ribonucleoprotein; Ribosomal protein; Zinc;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 55.6%; Score 5; DB 1; Length 80; Best Local Similarity 100.0%; Pred. No. 3.4e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   40S ribosomal protein S27a.
/FTId=PRO_0000137681.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          C4-type. -
Lys-rich (highly basic).
89FD2DC98B1E55B7 CRC64;
                                                                                                                                 31-AUG-2004, integrated into UniProtKB/Swiss-Prot. 31-AUG-2004, sequence version 1. ARA-2006, entry version 11. 40S ribosomal protein S27a. Name=UBI3; Synonyms=RPS27A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RS27A SOLTU STANDARD; PRT; 80 AA. P62981; P27083; 31-AUG-2004, integrated into UniProtKB/Swiss-Prot. 31-AUG-2004, sequence version 1. 07-MAR-2006, entry version 11. 40S ribosomal protein S27a. Name=UBI3; Synonyms=RPS27A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EMBL; X58253; CAA41207.1; ALT_INIT; Genomic_DNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUCLECTIDE SEQUENCE [GENOMIC DNA] (UBI3).
TISSUB=Root;
MEDLINE-92032784; PubMed=1657246;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PIR; S18351; UQTO7A.
InterPro; IPR002906; Ribosomal S27a.
Pfam; PP01599; Ribosomal S27; 1.
                                                                                                                                                                                                                                                                                                     Lycopersicon esculentum (Tomato).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    23
9195 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Solanum tuberosum (Potato)
                                                                                STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 80 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             31 KVDDT 35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=4113;
                                                                          RS27A LYCES & P62980; P27083;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPBIAS
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FING
                   RESULT 75
RS27A LYCES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             [2]
                                                                                                             POLITICAL PROPERTY OF THE PROP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
```

```
ó
                                                                                                                                                                                                                                                                                                                                   Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                Garbarino J.E., Belknap W.R.;
"Isolation of a ubiquitin-ribosomal protein gene (ubi3) from potato
and expression of its promoter in transgenic plants.";
plant Mol. Biol. 24:119-127(1994).
-!- MISCELLANEOUS: This ribosomal protein is synthesized as a C-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Detter C., Glavina T.,
                                                                                                                                                                                                             -!- MISCELLANEOUS: This ribosomal protein is synthesized as a C-terminal extension protein (CEP) of ubiquitin.
-!- SIMILARITY: Belongs to the ribosomal protein S27Ae family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -!- CAUTION: The sequence shown here is derived from an EMBL/GenBank/DDBJ whole genome shotgun (WGS) entry which is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Psychrobacter cryohalolentis KS.
Bacteria; Proteobacteria; Gammaproteobacteria; Pseudomonadales;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Copeland A., Lucas S., Lapidus A., Barry K., Detter C., Glavin
Hammon N., Israni S., Pitluck S., Richardson P.;
"Sequencing of the draft genome and assembly of Psychrobacter
cryohalolentis KS.";
                                                                                                                                                                                                                                                                                                                                                                                                             EMBL; Z11669; CAA77735.1; ALT INIT; mRNA.
EMBL; L22576; AAA19247.1; ALT INIT; Unassigned_DNA.
InterPro; IPRO02906; Ribosomal S27a.
Pfan; PPO1599; Ribosomal S27; I.
Metal-binding; RibonucleOprotein; Ribosomal protein; Zinc;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Larimer F., Land M.;
Annotation of the draft genome assembly of Psychrobacter
cryohalolentis KS.";
Submitted (AUG-2005) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        40S ribosomal protein S27a. /FTId=PRO_0000137684.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 1; Length 80;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Submitted (JUL-2005) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                C4-type. Lys-rich (highly basic). 89FD2DC98B1E55B7 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 5; DB 1; Le
Pred. No. 3.4e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             08-NOV-2005, integrated into UniProtKB/TrEMBL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             55.6%; Scor.
100.0%; Pred. No. ...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      80 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Twin-arginine translocation protein TatA/E.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STRAIN=K5;
US DOE Joint Genome Institute (JGI-ORNL);
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US DOE Joint Genome Institute (JGI-PGF);
NUCLEOTIDE SEQUENCE [GENOMIC DNA] (UBI
STRAIN=cv. Lemhi Russet; TISSUE=Tuber;
MEDLINE=94154225; PubMed=8111011;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q3GRU9_9GAMM PRELIMINARY; PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   08-NOV-2005, sequence version 1.
07-FEB-2006, entry version 3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Moraxellaceae; Psychrobacter.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           80 AA; 9195 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORFNames=PcryoDRAFT 2424;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                68
23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           preliminary data.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NCBI_TaxID=335284;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             31 KVDĎT 35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ч
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                45
```

```
Ŋ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID=1488;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 KVDDT
         STRAIN=273-4;
                                                                                              Tiedje J.M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             <u>Y</u>3711 CLOAB
Q04353;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CLOAB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms
Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STRAIN=MGASGISO STRAINS CONTROLL DAYS STRAINS—STRAIN=MGASGISO STRAINS—STRAINS—MGASGISO STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS—STRAINS
                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Psychrobacter arcticum.
Bacteria; Proteobacteria; Gammaproteobacteria; Peeudomonadales;
Moraxellaceae; Psychrobacter.
                                                                                                                                                                                                 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                              Phage protein.
OrderedLocusNamea-128 Spy1844;
Streptococcus pyogenes serotype M28.
Bacteria; Firmicutes; Lactobacillales; Streptococcaceae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       55.6%; Score 5; DB 2; Length 81; ilarity 100.0%; Pred. No. 3.4e+02; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                DB 2; Length 80;
GO; GO:0016021; C:integral to membrane; IEA.
GO; GO:0008655; F:protein transporter activity; IEA.
GO; GO:0015031; P:protein transport; IEA.
INTERPRO; IPRO03369; MttA, Hcf106.
InterPro; IPRO06312; TatA-E.
Pfam, PPO2416; MttA, Hcf106, 1.
TIGREAMS; TIGREAMS; 1.
SEQUENCE 80 AA; 8738 MW; 04992A2113B4B965 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     81 AA; 9636 MW; 23DC6107C6B34810 CRC64;
                                                                                                                                                             55.6%; Score 5; DB 2; Les 100.0%; Pred. No. 3.4e+02; ative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                           13-SEP-2005, integrated into UniProtXB/TrEMBL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 [1]
NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
                                                                                                                                                                                                                                                                                                                                                            81 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL; CP000056; AAX72954.1; -; Genomic_DNA.
                                                                                                                                                                                                                                                                                                                                                         PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              J. Infect. Dis. 192:760-770(2005).
                                                                                                                                                                                                                                                                                                                                                                                                            13-SEP-2005, sequence version 1. 07-FEB-2006, entry version 4.
                                                                                                                                                                                                                                                                                                                                                       Q48QQ6_STRPM PRELIMINARY;
Q48QQ6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRELIMINARY;
                                                                                                                                        Query Match
Best Local Similarity 100.00
Best Local Similarity 5, Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NCBI_TaxID=319700;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local Similarity
                                                                                                                                                                                                                                                                   73 KVDDT 77
                                                                                                                                                                                                                                Ŋ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Complete proteome
SEQUENCE 81 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    42 KVDDT 46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NCBI_TaxID=334543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 KVDDT 5
                                                                                                                                                                                                                                1 KVDDT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  04FQ61_PSYAR
Q4FQ61;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                        STRPM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PSYAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   048006
   Š
                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
```

```
ö
                                                                                                                                                                                                                                               Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
NASA Astrobiology Institute;
Ayala-del-Rio H.L., Chain P., Ponder M.A., Di Bartolo G., Ivanova N.,
Bargholz P.W., Hauser L., Land M., Bakermans C., Rodrigues D.,
Klappenbach J.A., Zarka D., Larimer F., Richardson P., Thomashow M.F.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gape
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STRAIN-ATCC 824 / DSM 792 / UKM B-1787;

MEDLINE-21359325; PubMed=11466286;
DOI=10.1128/JB.183.16.4823-4838.2001;
Noelling J., Breton G., Omelchenko M.V., Makarova K.S., Zeng Q., Gibson R., Lee H.M., Dubois J., Qiu D., Hitti J., Wolf Y.I.,
Tatusov R.L., Sabathe F., Doucette-Stamm L.A., Soucaille P., Daly M.J., Bennett G.N., Koonin B.V., Smith D.R.;
"Genome sequence and comparative analysis of the solvent-producing J. Bacterium Clostridium acetobutylicum.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Clostridium acetobutylium.
Bacteria; Firmicutes; Clostridia; Clostridiales; Clostridiaceae;
Clostridium.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sauer U., Duerre P.;
"Sequence and molecular characterization of a DNA region
small heat shock protein of Clostridium acetobutylicum.";
J. Bacteriol. 175:3394-3400 (1993).
                                                                                                                                                        "Complete sequence of Psychrobacter arcticum 273-4."; Submitted (JUL-2005) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 5; DB 2; Length 87;
Pred. No. 3.6e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Complete proteome.
SEQUENCE 87 AA; 9280 MW; 5240B1E656680D60 CRC64;
                                                                                                                                                                                                                                                                                                                                         EMBL; CP000082; AAZ19847.1; -; Genomic_DNA.
GO; GO:0016021; C:integral to membrane; IEA.
GO; GO:001865; F:protein transporter activity; IEA.
GO; GO:001801; P:protein transport; IEA.
InterPro; IPR006312; TatA E.
Pfam; PF02416; MttA Hcf106; 1.
TIGREAMS; TIGR01411; tatAE; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-FEB-1994, integrated into UniProtKB/Swiss-Prot.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL; X65276; CAA46377.1; ALT INIT; Genomic_DNA.
EMBL; AE007866; AAK81631.1; -; Genomic_DNA.
PIR; D97355; D97355.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         90 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         100.0%; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NUCLEOTIDE SEQUENCE [GENOMIC DNA].
STRAIN=ATCC 824 / DSM 792 / VKM B-1787;
MEDLINE=93273706; PubMed=8501044;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GenomeReviews; AE001437 GR; CAC3711.
BioCyc; CACE1488:CAC3711-MONOMER; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               29-AUG-2001, sequence version 2.
07-MMR-2006, entry version 25.
Hypothetical protein CAC3711.
OrderedLocusNames=CAC3711.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               55.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Beet Local Similarity 100.uv
S; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     80 KVDDT 84
```

```
STRAIN=Ames ancestor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Bacillus anthracis.
                                                                                                                                                                        Local Similarity
                                                                                                                                                                                                                                                                    52 DDTFY 56
                                                                                                                                                                                                                                         3 DDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STRAIN=Sterne;
                                                                                                                                                             Query Match
                                                                                                                                                                                                   Matches
  S X B C C C C C
                                                                                                                                                                                                                                                                              d
                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Brettin T.S., Bruce D., Challacombe J.F., Gilna P., Han C., Hill K., Hitchcock P., Jackson P., Keim P., Longmire J., Lucas S., Okinaka R., Richardson P., Rubin E., Tice H.; "Complete genome sequence (Bacillus cereus ZK."; Submitted (JUL-2004) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NUCLEOTIDE SEQUENCE.
MEDLINE-22080411; PubMed-12083822; DOI-10.1006/viro.2002.1411;
Li L., Donly C., Li Q., Willis L.G., Keddie B.A., Erlandson M.A.
                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ĕ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Theilmann D.A.; "Identification and genomic analysis of a second species of nucleopolyhedrovirus isolated from Mamestra configurata."; Virology 297:226-244 (2002).
              Hypothetical protein CAC3711.
/FTId=PRO 0000207115.
DDDDB0F5C2FDD3CC CRC64;
                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 5; DB 2; Length 91;
Pred. No. 3.8e+02;
                                                                                            55.6%; Score 5; DB 1; Length 90; 100.0%; Pred. No. 3.7e+02; Live 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Bacillus cereus (strain ZK / E33L).
Bacteria, Firmicutes, Bacillales, Bacillaceae, Bacillus,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      InterPro; IPR009317; ChaB.
Pfam; PF06150; ChaB; 1.
Hypothetical protein.
SEQUENCE 91 AA; 10720 MW; B34A44F5A99C02FB CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                            Mamestra configurata NPV-B.
Viruses; dsDNA viruses, no RNA stage; Baculoviridae;
Nucleopolyhedrovirus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
                                                                                                                                                                                                                                                                                                                                                              01-OCT-2002, integrated into UniProtKB/TrEMBL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           25-OCT-2004, integrated into UniProtKB/TrEMBL
                                                                                                                                                                                                                                                                                                                        91 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     92 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL; AY126275; AAM95113.1; -; Genomic_DNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0; Mismatches
Complete proteome; Hypothetical protein.
                                                                                                                                                                                                                                                                                                                      PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          25-OCT-2004, sequence version 1.
07-FEB-2006, entry version 10.
Hypothetical protein.
                                                                                                                                                                                                                                                                                                                                                                               01-OCT-2002, sequence version 1. 07-PEB-2006, entry version 9.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           55.6%; 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         OrderedLocusNames=BCE33L1838;
                                                      10302 MW;
                                                                                                                                                                                                                                                                                                                                                                                                      entry version 9. protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRELIMINARY;
                                                                                                                                                                                                                                                                                                                      PRELIMINARY;
                                                                                                                                    5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bacillus cereus group.
                                                                                                Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
                                                        90 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NCBI_TaxID=204440;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=288681;
                                                                                                                                                                                                   |||||
56 KVDDT 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ||||||
85 DDTFY 89
                                                                                                                                                                              1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3 DDTFY 7
                                                                                                                                                                                                                                                                                                                    QBJM27_9NUCL
QBJM27;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q63CD4_BACCZ
Q63CD4;
                                                                                                                                                                                                                                                                                                                                                                                                                         Hypothetical
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5,
                                                        SEQUENCE
                                                                                                                                                                                                                                                                              RESULT 81
Q8JM27 9NUCL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BACCZ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Loc
Matches
                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              25.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20.00

20
                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
```

```
ö
Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ravel J., Rasko D.A., Shumway M.F., Jiang L., Cer R.Z., Federova N.B., Wilson M., Stanley S., Decker S., Read T.D., Salzberg S.L., Fraser C.M.;
                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Read T.D., Peterson S.N., Tourasse N.J., Baillie L.W., Paulsen I.T., Nelson K.E., Tettelin H., Fouts D.E., Eisen J.A., Gill S.R., Holtzapple E.K., Okstad O.A., Helgason E., Ristone J., Wu M., Kolonay J.E., Beanan M.J., Dodson R.J., Brinkac L.M., Gwinn M.L., DeBoy R.T., Madpu R., Daugherty S.C., Durkin A.S., Haft D.H., Nelson W.C., Peterson J.D., Pop M., Khouri H.M., Radune D., Benton J.L., Mahamoud Y., Jiang L., Hance I.R., Weidman J.F., Hazen X., Cline R.T., Redmond C., Thwaite J.E., White O., Salzberg S.L., Thomason B., Friedlander A.M., Koehler T.M., Hanna P.C., Kolstoe A.-B., Fraser C.M.; Koehler T.M., The genome sequence of Bacillus anthracis Ames and comparison to closely related bacteria.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ., Hill K.,
Okinaka R.,
                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OrderedLocusNames=BA2031, BAS1886, GBAA2031; ORFNames=BA_2031;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .;
:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE=22608414; PubMed=12721629; DOI=10.1038/nature01586;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Brettin T.S., Bruce D., Challacombe J.F., Gilna P., Han C. Hitchcock P., Jackson P., Keim P., Longmire J., Lucas S., Richardson P., Rubin B., Tice H.; "Complete genome sequence of Bacillus anthracis Sterne."; Submitted (JAN-2004) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bacteria; Firmicutes; Bacillales; Bacillaceae; Bacillus; Bacillus cereus group.
                                                                                                                                                                                                                                               DB 2; Length 92; . 3.8e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "Bacillus anthracis comparative genomics.";
Submitted (MAY-2004) to the EMBL/GenBank/DDBJ databases.
                                                                                                   EMBL; CP000001; AAU18407.1; -; Genomic DNA.
Complete proteome; Hypothetical protein.
SEQUENCE 92 AA; 10293 MW; AB488CFBD09699D1 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA]. STRAIN=Ames / isolate Porton;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               [2]
NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QBIRL2 BACAN PRELIMINARY; PRT; 92 AA. QBIRL2; Q6HZTB; Q6KZ23; 01-UUN-2003, integrated into UniProtKB/TrEMBL. 01-UUN-2006, entry version 1. 07-FEB-2006, entry version 16. Conserved domain protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL; AE016879; AAP25920.1; -; Genomic_DNA.
EMBL; AE017334; AAT31148.1; -; Genomic_DNA.
EMBL; AE01725; AAT54201.1; -; Genomic_DNA.
MEROPS; M73.001; -.
TIGR; BA2031; -.
                                                                                                                                                                                                                                                                     100.0%; Pred. ... 0; Mismatches
                                                                                                                                                                                                                                               Score 5; I
Pred. No.
                                                                                                                                                                                                                                                   55.6%;
                                                                                                                                                                                                                                                                                                                     5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Nature 423:81-86(2003).
```

```
NUCLEOTIDE SECUENCE.
                                                                                                                                                                                                                                           ß
                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=5693;
                                                                                                                                                                                                                                           1 KVDDT
                                                                                                                                                                                                                                                                                                                                                                                                                               Schizotrypanum
                                                        NCIMB 8052.",
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Disease.";
                                                                                                                                                                                                                                                                                                          TRYCR
                                                                                                                                                                                                                                                                                                          Q4DFB0
    ð
                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                          Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STRAIN-NCIBS 80528.
STRAIN-NCIBS 80528.
US DOB Joint Genome Institute (JGI-PGF);
US DOB Joint Genome Institute (JGI-PGF);
US DOB Joint Genome Institute A., Barry K., Detter J.C., Glavina T., Hammon N., Israni S., Pitluck S., Richardson P.;
"Sequencing of the draft genome and assembly of Clostridium beijerincki NCIMB 8052.";
Submitted (OCT-2005) to the EMBL/GenBank/DDBJ databases.
                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                 Viruses; dsDNA viruses, no RNA stage; Adenoviridae; Mastadenovirus.
                                                                                                                                                                                                                                                                                          Madisch I., Harste G., Pommer H., Heim A.; "Phylogenetic Analysis of Main Neutralization (epsilon) and menagglutination(gamma) Determinants of all Human Adenovirus Prototypes as a Basis for MolecularClassification and Taxonomy."; J. Virol. 0:0-0(2005).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Bacteria; Firmicutes; Clostridia; Clostridiales; Clostridiaceae;
                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                          h 55.6%; Score 5; DB 2; Length 92; Similarity 100.0%; Pred. No. 3.8e+02; 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                               55.6%; Score 5; DB 2; Length 92; 100.0%; Pred. No. 3.8e+02; ive 0; Mismatches 0; Indels
                    92 AA; 10279 MW; AB4C57DBD09699D1 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                         92 AA; 10228 MW; 680705BC73BC3A16 CRC64;
                                                                                                                                                                                20-DEC-2005, integrated into UniProtKB/TrEMBL. 20-DEC-2005, sequence version 1. 07-FBB-2006, entry version 3. Hexon capsid protein (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        10-JAN-2006, integrated into UniProtKB/TrEMBL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    94 AA.
                                                                                                                                                                                                                                                                                                                                                                                       EMBL; AJ745893; CAG34210.2; -; Genomic_DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OŘřNames=CbeiĎRAFT 1625;
Clostridium beijerÍncki NCIMB 8052.
                                                                                                                                                            QZZOL6_9ADEN PRELIMINARY; PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  10-JAN-2006, sequence version 1. 07-FEB-2006, entry version 3. Hypothetical protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRELIMINARY;
                                                                                                                                                                                                                                       Human adenovirus type 38.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                  NUCLEOTIDE SEQUENCE.
          Complete proteome.
SEQUENCE 92 AA;
                                                  Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=290402;
                                                                                                       52 DDTFY 56
                                                                                                                                                                                                                                                             NCBI_TaxID=46943;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         71 KVDDT 75
                                                                                    3 DDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 KVDDT 5
TIGR; GBAA2031;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QZWLYS_CLOBE
Q2WLYS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Clostridium
                                                                                                                                                                                                                                                                                                                                                                                                                NON TER
SEQUENCE
                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                   9ADEN
                                                                                                                                                                                                                                                                                                                                                                                                      TER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CLOBE
                                                                                                                                                                      Q2Z0L6
                                                    Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 85
Q2WLY5 CLC
                                                                                    ઠે
                                                                                                      셤
                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               C. STRAIN=CL Brener;

A B1-Sayed N.M.A., Myler P.J., Bartholomeu D.C., Nilsson D.,

B Sayed N.M.A., Myler P.J., Ghedin E., Worthey E.A., Delcher A.L.,

Aggarwal G., Tran A.-N., Ghedin E., Worthey E.A., Delcher A.L.,

Blandin G., Westenberger S.J., Caler E., Cerqueira G.C., Branche C.,

Haas B., Anapuma A., Arner E., Aslund L., Attipoe P., Bontempi E.,

Bringund F., Burton P., Cadag E., Campbell D.A., Carrington M.,

Crabtree J., Darban H., da Silveira J.F., de Jong P., Edwards K.,

Englund P.T., Fazelina G., Feldblyum T., Ferella M., Frasch A.C.,

Andl K., Horn D., Hou L., Huang Y., Kindlund E., Kingbell M.,

Kluge S., Koo H., Lacerda D., Levin M.J., Lorenzi H., Louie T.,

Machado C.R., McCulloch R., McKenna A., Mizuno Y., Mottram J.C.,

Anchado C.R., McCulloch R., McKenna A., Mizuno Y., Mottram J.C.,

Anchado C.R., Sonchez D.O., Seyler A., Sharma R., Shetty J.,

Salzberg S.L., Sanchez D.O., Seyler A., Sharma R., Shetty J.,

Salzberg S.L., Sanchez D.O., Seyler A., Sharma R., Shetty J.,

Nun Aken S., Vogt C., Ward P.N., Wickstead B., Wortman J., White O.,

Praser C.M., Stuart K.D., Andersson B.;

The Genome Sequence of Trypanosoma cruzi, Etiologic Agent of Chagas,
                                                                                                                                                                                                                                                                                                                                                                                                   Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Euglenozoa; Kinetoplastida; Trypanosomatidae; Trypanosoma;
STRAIN=NCIMB 6052;
US DODS Joint Genome Institute (JGI-ORNL);
Land M.;
"Annotation of the draft genome assembly of Clostridium beijerincki
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STRAIN-CL Brener;
Bl-Sayed N.M.A., Myler P.J., Blandin G., Berriman M., Crabtree J., Aggarwal G., Caler E., Renauld H., Worthey E.A., Hertz-Fowler C., Ghedin E., Peacock C., Bartholomeu D.C., Haas B.J., Tran A.-N., Wortman J.R., Alsmark U.C.M., Angiuoli S., Anupama A., Badger J., Bringaud F., Cadag E., Carlton J.M., Cerqueira G.C., Creasy T., Belcher A.L., Djikeng A., Embley T.M., Hauser C., Ivens A.C., Kummerfeld S.K., Pereira-Leal J.B., Nilsson D., Peterson J.,
                                                                                                                                                                                                                                         -!- CAUTION: The sequence shown here is derived from an EMBL/GenBank/DDBJ whole genome shotgun (WGS) entry which is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              55.6%; Score 5; DB 2; Length 94; 100.0%; Pred. No. 3.96+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                    Submitted (NOV-2005) to the EMBL/GenBank/DDBJ databases,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           13-SEP-2005, integrated into UniProtKB/TrEMBL.
13-SEP-2005, sequence version 1.
07-FEB-2006, entry version 5.
10 kDa hea shock protein, putative.
0RFNames=Tc00.1047053508209.100, Tc00.1047053508209.90,
Tc00.1047053509505.30, Tc00.1047053509505.70;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Hypothetical protein.
SEQUENCE 94 AA; 10807 MW; 65A52A20B248AE6C CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL; AALO01000023; EAP59102.1; -; Genomic_DNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             100 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q4DFB0_TRYCR PRELIMINARY; PRT; Q4DFB0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       55.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity 100...
Best Local Si Conservative
                                                                                                                                                                                                                                                                                                                             preliminary data.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Science 0:0-0(2005).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Trypanosoma cruzi.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8 KVDDT 12
```

Gaps

```
Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms
Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          licheniformis and comparisons with closely related Bacillus species."; Genome Biol. 5:RESEARCH077.1-RESEARCH077.12(2004).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PubMed=15461803; DOI=10.1186/gb-2004-5-10-r77;
Rey W.W., Ramalaya P., Nelson B.A., Brody-Karpin S.D., Zaretsky E.J., Tang M., Lopez de Leon A., Xiang H., Gusti V., Clausen I.G., Olsen P.B., Rasmussen M.D., Andersen J.T., Joergensen P.L., Larsen T.S., Sorokin A., Bolotin A., Lapidus A., Galleron N., Ehrlich S.D., Berka R.M.;
"Complete genome sequence of the industrial bacterium Bacillus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
PubMed=15383718; DOI=10.1159/000079829;
Veith B., Herzberg C., Steckel S., Feesche J., Maurer K.H.,
Ehrenreich P., Baeumer S., Henne A., Liesegang H., Merkl R.,
Ehrenreich A., Gottschalk G.;
Ehrenreich A., Gottschalk G.;
The complete genome sequence of Bacillus licheniformis DSM13, an organism with great industrial potential.";
J. Mol. Microbiol. Biotechnol. 7:204-211(2004).
                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 55.6%; Score 5; DB 2; Length 106; 100.0%; Pred. No. 4.3e+02; ive 0; Mismatches 0; Indels
                           Indels
                                                                                                                                                                                                                                                              065G18; 062RH3;
25-CCT-2004, integrated into UniProtKB/TrEMBL.
25-CCT-2004, sequence version 1.
07-FBB-2006, entry version 15.
Putative thioredoxin YtpP.
Name-stypp; OrderedLocusNames-BL00046, BLi03135;
Bacillus licheniformis (etrain DSM 13 / ATCC 14580).
Bacteria; Firmicutes; Bacillales; Bacillaceae; Bacillus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       106 AA; 12625 MW; 63F72F5A999FA8A8 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL, AE017333, AAU41996.1; -; Genomic_DNA.
EMBL, CP000002; AAU24637.1; -; Genomic_DNA.
GO; GO: 005489; F: electron transporter activity; IEA.
GO; GO: 0006118; P:electron transport; IEA.
    100.0%; Pred. No. 4.2e+02; ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QSWEAT BACSK PRELIMINARY; PRT; 108 AA. QSWEAT; 23-NOV-2004, integrated into UniProtKB/TrEMBL. 23-NOV-2004, sequence version 1. 07-FEB-2006, entry version 9.
                                                                                                                                                                                                                                             106 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  InterPro; IPR012336; Thiordxn-like_fd.
InterPro; IPR006662; Thiored.
InterPro; IPR006663; Thioredox dom2.
InterPro; IPR012335; ThioredoxIn_fold.
                                                                                                                                                                                                                                             PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pfam; PF00085; Thioredoxin; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRINTS; PR00421; THIOREDOXIN.
                                                                                                                                                                                                                                             PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity 100...
Best Local Si Conservative
    Best Local Similarity 100.
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=279010;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Complete proteome. SEQUENCE 106 AA;
                                                                                                          75 KVDDT 79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           49 TFYYV 53
                                                                          Ŋ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5 TFYYV 9
                                                                          1 KVDDT
                                                                                                                                                                                                                                          Q65G18_BACLD
                                                                                                                                                                                                                      BACLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BACSK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 89
Q5WEA4 BAC
                                                                                                                                                                                                                    065G18
                                                                          ઠે
                                                                                                                      셤
                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       44441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                     Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms
Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Copeland A., Lucas S., Laplads A., Barry K., Detter J.C., Glavina T., Hammon N., Israni S., Pitluck S., Chain P., Malfatti S., Shin M., Vergez L., Schmutz J., Larimer F., Land M., Hauser L., Pelletier D.A., Kyrpides N., Anderson I., Oda Y., Harwood C.S., Richardson P.; "Complete sequence of Rhodopseudomonas paluetris HaA2."; Submitted (JAN-2006) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
Salzberg S.L., Shallom J., Silva J.C., Sundaram J., Westenberger S. White O., Melville S.E., Donelson J.E., Andersson B., Stuart K.D.,
                                                                                                                                                                                    E1-Sayed N., Bartholomeu D., Haas B.;
Submitted (JUN-2005) to the EMBL/GenBank/DDBJ databases.
-!- CAUTION: The sequence shown here is derived from an
EMBL/GenBank/DDBJ whole genome shotgun (WGS) entry which is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                       "Comparative Genomics of Trypanosomatid Parasitic Protozoa.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiales;
Bradyrhizobiaceae; Rhodopseudomonas.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 100;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                55.6%; Score 5; DB 2; Length 104;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100 AA; 10700 MW; 436B56AEDAF1B354 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              104 AA; 10889 MW; F2169AB4FF2FEB7F CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                      EMBL; AAHKO1000544; EAN91212.1; -; Genomic_DNA.
EMBL; AAHKO1001336; EAN65850.1; -; Genomic_DNA.
EMBL; AAHKO1000544; EAN91211.1; -; Genomic_DNA.
EMBL; AAHKO1001336; EAN95211.1; -; Genomic_DNA.
GO; GO:0005524; F:ATP binding; IEA.
GO; GO:005524; F:ATP binding; IEA.
GO; GO:006457; P:Protein folding; IEA.
GO; GO:006647; P:Protein folding; IEA.
GO; GO:0066986; P:response to unfolded protein; IEA.
InterPro; IPRO(1476; Chaprnin_Cpn10.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    55.6%; Score 5; DB 2; Ler 100.0%; Pred. No. 4.1e+02; iive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          07-WAR-2006, integrated into UniProtKB/TrEMBL. 07-WAR-2006, sequence version 1. 07-WAR-2006, entry version 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRELIMINARY; PRT; 104 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL; CP000250; ABD06110.1; -; Genomic_DNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRINTS; PR00297; CHAPERONIN10.
ProDom; PD000566; Chaprnin_Cpn10; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Rhodopseudomonas palustris HaA2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STRAIN=HaA2;
US DOE Joint Genome Institute;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pfam; PF00166; Cpn10; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Hypothetical protein.
ORFNames=RPB 1400;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Chaperone, Heat shock
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Aypothetical protein.
                                                                                                                                                                                                                                                                                       preliminary data.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NUCLEOTIDE SEQUENCE.
                                                                                                                                            NUCLEOTIDE SEQUENCE.
                                                                                             Science 0:0-0(2005)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NCBI_TaxID=316058;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               64 KVDDT 68
                                                                                                                                                                  STRAIN=CL Brener;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QZJOAO RHOPA
Q2JOAO;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RHOPA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 87
```

à g DDT ACCOUNT TO A SERVICE OF A S

ô

Gaps

```
QEYBR4 MYCHO PRELIMINARY;
QEYBR4;
                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local Similarity 100 Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                      NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                          Mycoplasma hominis.
      Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                           25 TFYYV 29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            33 TFYYV 37
                                                               5 TFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5 TFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                       MYCHO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BACCZ
                                                                                                                                                       Q6YBR4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q63BU1
                                                               ઠ
                                                                                           셤
                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                         Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                   NUCLECTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
Takaki Y., Kageyama Y., Shimamura S., Suzuki H., Nishi S., Hatada Y.,
Kawai S., Ito S., Horikoshi K.;
"The complete genome sequence of the alkaliphilic Bacillus clausii
KSPM-K16.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NUCLBOTIDE SEQUENCE.
PubMed=15637271; DOI=10.1126/Science.1103717;
Hall N., Kaarras M., Raine J.D., Carlton J.M., Kooij T.W.A.,
Hall N., Kaarras M., Janssen C.S., Pain A., Christophides G.K.,
James K., Rutherford K., Harris B., Harris D., Churcher C.M.,
Quail M.A., Ormond D., Doggett J., Trueman H.E., Mendoza J.,
Bidwell S.L., Rajandream M.A., Carucci D.J., Yates J.R. III,
Kafatos F.C., Janse C.J., Barrell B.G., Turner C.M.R., Waters A.P.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "A comprehensive survey of the Plasmodium life cycle by genomic,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    transcriptomic, and proteomic analyses.";
Science 307:82-86(2005).
-1- CAUTION: The sequence shown here is derived from an
EMBL/GenBank/DDBJ whole genome shotgun (WGS) entry which is
                                                                                                                                                                                                                                                                                                                                                                                                                                                      ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              05-JUL_2005, integrated into UniProtKB/TrEMBL.
05-JUL_2005, sequence version 1.
07-FBB-2006, entry version 4.
Hypothetical protein.
0RYRNames=PC403203.00.0;
Plasmodlum chabaudi.
Bukaryota, Alveaudi.
Bukaryota, Alveaudi.
Apicomplexa; Haemosporida; Plasmodium.
NYBI_TAXID=5825;
                                                                                                                                                                                                                                                                                                                                                                                                                    55.6%; Score 5; DB 2; Length 108; 100.0%; Pred. No. 4.3e+02; Live 0; Mismatches 0; Indels
                             Bacillus clausii (strain KSM-KIS).
Bacteria; Firmicutes; Bacillales; Bacillaceae; Bacillus.
NCBI_TaxID=66692;
                                                                                                                                                              Submitted (OCT-2003) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                        108 AA; 12516 MW; 0F5925611B113E56 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Hypothetical protein.
SEQUENCE 109 AA; 13670 MW; 480F614CD3A2B037 CRC64;
                                                                                                                                                                                                                                  EMBL; AP006627; BAD65306.1; -; Genomic DNA.
GO; GO:0005489; F:electron transporter activity; IEA.
GO; GO:0006118; F:electron transport; IEA.
InterPro; IPR012336; Thiorad.
InterPro; IPR006662; Thiorad.
InterPro; IPR006663; Thioradox dom2.
InterPro; IPR012335; Thioredox in Family PR00685; Thioradox in Family PR0085; ThioredoxIn.
PEAM; PR00421; THIOREDOXIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL; CAAJ01007439; CAH85235.1; -; Genomic_DNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       109 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRELIMINARY;
                OrderedLocusNames=ABC2772;
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 preliminary data.
                                                                                                                                                                                                                                                                                                                                                                            Complete proteome. SEQUENCE 108 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                   Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            49 TFYYV 53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5 TEYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 04xCY7 PLACH
                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 90
a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                          Сарв
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gapa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].

Brettin T.S., Bruce D., Challacombe J.F., Gilna P., Han C., Hill K Hitchcock P., Jackson P., Keim P., Longmire J., Lucas S., Okinaka Richardson P., Rubin B., Tice H.;

"Complete genome sequence of Bacillus cereus ZK.";

Submitted (JUL-2004) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Increased Expression of Two Multidrug Transporter-Like Genes Is
Associated with Ethidium Bromide and Ciprofloxacin Resistance in
                                        ö
                                                                                                                                                                                                                                                                                                                                                   Bacteria, Firmicutes; Mollicutes; Mycoplasmataceae; Mycoplasma.
NCBI_тахID=2098;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Raherison S., Gonzalez P., Renaudin H., Charron A., Bebear C.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 55.6%; Score 5; DB 2; Length 116; 100.0%; Pred. No. 4.6e+02;
55.6%; Score 5; DB 2; Length 109; 100.0%; Pred. No. 4.4e+02;
                                      0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Acetyltransferase.
OrderediocusNames=BCE33L2034;
Bacillus cereus (strain ZK / E33L).
Bacteria; Firmicutes; Bacillales; Bacillaceae; Bacillus;
Bacillus cereus group.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE 116 AA; 13513 MW; ADC7AC6DC5AAB3A7 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                  STRAIN=PG21;
PubMed=15616325; DOI=10.1128/AAC.49.1.421-424.2005;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mycoplasma hominis.";
Antimicrob. Agents Chemother. 49:421-424(2005)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QG3BUL BACCZ PRELIMINARY; PRT; 119 AA. Q63BUL; 25-0CT-2004, integrated into UniProtKB/TrEMBL. 25-0CT-2004, sequence version 1.
                                                                                                                                                                                                                                                              05-JUL-2004, integrated into UniProtKB/TrEMBL
          100.0%; Pred. nc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL; AY169817; AAO39417.1; -; Genomic_DNA. Hypothetical protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              100.0%; Pred. ...
                                                                                                                                                                                                                                                                                 05-JUL-2004, sequence version 1.
07-FEB-2006, entry version 7.
Hypothetical conserved protein (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL; CP000001; AAU18222.1; -; Genomic_DNA.
                                                                                                                                                                                                                      PRT;
```

```
1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BACAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 95
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
8
                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Brettin T.S., Bruce D., Challacombe J.F., Gilna P., Han C., Hill K., Hitchcock P., Jackson P., Keim P., Longmire J., Lucas S., Okinaka R., Richhardson P., Rubin B., Tice H.; "Complete genome sequence of Bacilus thuringiensis 97-27."; Submitted (JUN-2004) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                          ö
                                                                                                                                           55.6%; Score 5; DB 2; Length 119; 100.0%; Pred. No. 4.7e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   55.6%; Score 5; DB 2; Length 119; 100.0%; Pred. No. 4.7e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Bacillus cereus (strain ATCC 14579 / DSM 31).
Bacteria; Firmicutes; Bacillales; Bacillaceae; Bacillus;
Bacillus cereus group.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OrderedLocusNames=BT9727_2036;
Bacillus thuringlensis sübsp. konkukian.
Bacteria; Firmicutes; Bacillales; Bacillaceae; Bacillus;
Bacillus cereus group.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Complete proteome; Transferāse.
SEQUENCE 119 AA; 13948 MW; 5989EED70ACF9DAB CRC64;
                                                                                                        13936 MW; B8CCE34683CF9DAA CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL; AE017355; AAT61224.1; -; Genomic_DNA.
GO; GO:0008080; P:N-accetyltransferase activity; IEA.
GO; GO:0016740; P:transferase activity; IEA.
InterPro; IPR000183; GCN5acetyl trans.
Pfam; PF00583; Acetyltransf_1; I.
GO:0008080; F:N-acetyltransferase activity; IEA.
                                                                                                                                                                                                                                                                                                                                                                                                                           19-JUL-2004, integrated into UniProtKB/TrEMBL.
19-JUL-2004, sequence version 1.
07-FEB-2006, entry version 10.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-JUN-2003, integrated into UniProtKB/TrEMBL 01-JUN-2003, sequence version 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-JUN-2003, ecquesion 12.
07-FEB-2006, entry version 12.
07-FEB-2006, entry version 12.
OrderedLocusNames=BC2205; ORFNames=BC_2205;
                 GO; GO:0016740; F:transferase activity; IEA.
InterPro; IPR000182; GCN5acetyl trans.
Pfam; PF00583; Acetyltransf 1; 1.
                                                                                                                                                                                                                                                                                                                                                                                     119 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              119 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRT;
                                                                                                                                                                                                                                                                                                                                                                                     PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                   , sequence version 1.
                                                                                  Complete proteome; Transferase. SEQUENCE 119 AA; 13936 MW;
                                                                                                                                                                                                                                                                                                                                                                                     PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRELIMINARY;
                                                                                                                                                                    Best Local Similarity 100.
Matches 5, Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Best_Local Similarity 100.
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=226900;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NCBI_TaxID=180856
                                                                                                                                                                                                                                                                        34 KVDDT 38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Acetyltransferase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 34 KVDDT 38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ŋ
                                                                                                                                                                                                                                  1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 KVDDT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QBIDZI_BACCR
QBIDZI;
                                                                                                                                                                                                                                                                                                                                                                                     QEHJB1_BACHK
                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BACCR
                                                                                                                                                                                                                                                                                                                                                                                                           Q6HJB1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                           RESULT 93
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 94
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   281021

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

10 09

1
% ¥ B B B B
                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 요
```

```
STRAINS-Ames / isolate Porton.

X MEDLINE-22608414; PubMed=12721629; DOI=10.1038/nature01586;

Read T.D., Peterson S.N., Tourasse N.J., Baillie L.W., Paulsen I.T.,

Nelson K.E., Tettelln H., Pouts D.E., Eisen J.A., Gill S.R.,

A Kolonay T.F., Beanan M.J., Dodson R.J., Brinacc L.M., Gwinn M.L.,

A DeBoy R.T., Madpu R., Daugherty S.C., Durkin A.S., Haft D.H.,

Nelson W.C., Peterson J.D., Pop M., Khouri H.M., Radune D.,

Berton M.C., Plaut R.D., Wolf A.M., Watkins K.L., Nierman W.C.,

A Barry K.J., Plaut R.D., Wolf A.M., Watkins K.L., White O.,

A Salzberg S.L., Thomason B., Friedlander A.M., Koehler T.M.,

Hanna P.C., Kolstoe A.-B., Fraser C.M.;

T.The genome sequence of Bacillus anthracis Ames and comparison to
                                                                                                                                                                                                                                                                                                                             Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ravel J., Rasko D.A., Shumway M.F., Jiang L., Cer R.Z., Federova N.B., Wilson M., Stanley S., Decker S., Read T.D., Salzberg S.L., Fraser C.M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
MEDLINE=22608415; PubMed=12721630; DOI=10.1038/nature01582; Ivanova N., Sorokin A., Anderson I., Galleron N., Candelon B., Kapatral V., Bhattacharyya A., Reznik G., Mikhailova N., Lapidus A., Chu L., Mazur M., Goltsman E., Larsen N., D'Souza M., Walunas T., Grechkin Y., Pusch G., Haelkorn R., Fonstein M., Ehrlich S.D., Overbeek R., Kyrpides N.C.; "Genome sequence of Bacillus cereus and comparative analysis with
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OrderedLocusNames=BA2252, BAS2096, GBAA2252; ORFNames=BA_2252;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 119;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Bacteria; Firmicutes; Bacillales; Bacillaceae; Bacillus;
Bacillus cereus group.
NCBL_TaxID=1392;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "Bacillus anthracis comparative genomics.";
Submitted (MAY-2004) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                              55.6%; Score 5; DB 2; Len
100.0%; Pred. No. 4.7e+02;
ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QBIROB BACAN PRELIMINARY; PRT; 119 AA. QB1ROB; Q6HZ79; Q6KT72; 01-JUN-2003, integrated into UniProtKB/TrEMBL. 01-JUN-2003, sequence version 1. OT-EB-2006, entry version 18. Acetyltransferase, GNAT family.
                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL; AE016877; AAP09171.1; -; Genomic_DNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  55.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5; Conservative
                                                                                                                                                                                                                                                                Nature 423:87-91(2003).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Nature 423:81-86(2003)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STRAIN=Ames ancestor;
                                                                                                                                                                                                                                  Bacillus anthracis.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Bacillus anthracis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         34 KVDDT 38
```

NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].

```
Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Archaea; Buryarchaeota; Thermococci; Thermococcales; Thermococcaceae;
                                                                                                                                                                                                                                                                                                STRAIN=Vcl / DSM 3638 / ATCC 43587 / JCM 8422;
Weiss R.B., Dunn D.M., Robb F.T., Brown J.R.;
"The complete sequence of the Pyrococcus furiosus genome.
Submitted (FEB-2002) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 120;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Bacteria; Firmicutes; Bacillales; Bacillaceae; Bacillus;
Bacillus cereus group.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       120 AA; 13395 MW; 4B5C2BE5C5609085 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           55.6%; Score 5; DB 2; Ler 100.0%; Pred. No. 4.7e+02; ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                            NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
STRAIN-VC1 / DSM 3638 / ATCC 43587 / JCM 8422;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL; AAEK01000006; EAL15572.1; -; Genomic_DNA.
                                                                                        integrated into UniProtKB/TrEMBL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            02-AUG-2005, integrated into UniProtKB/TrEMBL. 02-AUG-2005, sequence version 1. 07-FBB-2006, entry version 3. 07-FBB-2006, entry version 3. 08-CLI transferase. ORFNames=BCG G9241. 2217;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            120 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL; AE010185; AAL80767.1; -; Genomic_DNA.
BioCyc; PFUR186497:PF0643-MONOMER; -.
LinkHub; Q8U332; -.
                                                    PRT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRT;
                                                                Q8U332;
01-UNN-2002, integrated into Uni:
01-UN-2002, sequence version 1.
07-FEB-2006, entry version 11.
Hypothetical protein PF0643.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    O4MTS5_BACCE PRELIMINARY;
                                                  PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity 100.00
Best Local Similarity 5; Conservative
                                                                                                                                                                OrderedLocusNames=PF0643;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               preliminary data.
                                                                                                                                                                                        Pyrococcus furiosus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Complete proteome. SEQUENCE 120 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NCBI_TaxID=269801;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |||||
16 VDDTF 20
                                                                                                                                                                                                                                            NCBI_TaxID=2261;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2 VDDTF 6
                                                  QBU332 PYRFU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STRAIN=G9241
                                                                                                                                                                                                                            Pyrococcus
                                PYRFU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BACCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q4MTS5
                              Q8U332
                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                  Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
Brettin T.S., Bruce D., Challacombe J.F., Gilna P., Han C., Hill K., Hitchcock P., Jackson P., Keim P., Longmire J., Lucas S., Okinaka R., Richardson P., Rubin E., Tice H.; Longmire Sterne.", "Complete genome sequence of Bacillus anthracis Sterne.", Submitted (JAN-2004) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PubMed=14960714; DOI=10.1093/nar/ght258; Rasko D.A., Ravel J., Oekstad O.A., Helgason E., Cer R.Z., Jiang L., Shores K.A., Fouts D.E., Tourasse N.J., Angiuoli S.V., Kolonay J.F., Nelson W.C., Kolstoe A.-B., Fraser C.M., Read T.D.; "The genome sequence of Bacillus cereus ATCC 10997 reveals metabolic adaptations and a large plasmid related to Bacillus anthracis pXOI."; Nucleic Acids Res. 32:977-988(2004).
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                               55.6%; Score 5; DB 2; Length 119; 100.0%; Pred. No. 4.7e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       55.6%; Score 5; DB 2; Length 119; 100.0%; Pred. No. 4.7e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Bacillus cereus (strain ATCC 10987).
Bacteria; Firmicutes; Bacillales; Bacillaceae; Bacillus;
Bacillus cereus group.
                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Indels
                                                                                                                                                                                                                                                                                                                                                                         7A85C8D72145B508 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Complete proteome; Transferāse.
SEQUENCE 119 AA; 13993 MW; ESAD587DEF1503A3 CRC64;
                                                                                                                                                                                                                                      TIGR; GBAA2255; -.
GO; GO:0008080; F:N-acetyltransferase activity; IEA.
GO; GO:0016740; F:transferase activity; IEA.
InterPro; IPR000182; GCNsacetyl trans.
Ffam; PF00583; Acetyltransf_1; T.
Complete proteome; Transferase.
SEQUENCE 119 AA; 13963 MW: 7ARFGRONTINGER.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL; AE017194; AAS41200.1; -; Genomic DNA.
GO; GO:0008080; F:N-acetyltransferase activity; IEA.
GO; GO:001400; F:transferase activity; IEA.
InterPro: IPR000182; GCNSacetyl trans.
PF00583; Acetyltransfl; I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 05-JUL-2004, integrated into UniProtKB/TrEMBL.
                                                                                                                                                                        EMBL; AE016879; AAP26128.1; -; Genomic DNA.
EMBL; AE017234; AAT31373.1; -; Genomic_DNA.
EMBL, AE017225; AATS4410.1; -; Genomic_DNA.
TIGR; BA2252; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 119 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRELIMINARY; PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    05-JUL-2004, sequence version 1. 07-FEB-2006, entry version 9. Acetyltransferase, GNAT family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity 100.
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                             Best Local Similarity 100.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORFNames=BCE 2281;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=222523;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           34 kvbbr 38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      34 KVDDT 38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q738W2_BACC1
Q738W2;
                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
```

ઠે 셤

Matches

ò 셤 ö

Gaps

ö

0; Indels

```
preliminary data.
                                                                                                                                     NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Complete proteome. SEQUENCE 128 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              78 KVDDT 82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q8x3T8_ECO57
Q8x3T8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EC057
                                                                                                                                                                                                                                                                                                                                                                                                                                         Signal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Wang Z.-Q.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                      SJCHGC02803 protein.
Schistosoma japonicum (Blood fluke).
Bukaryota, Metazoa; Platyhelminthes; Trematoda; Digenea; Strigeidida;
Schistosomatoidea; Schistosomatidae; Schistosomatoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NUCLEOTIDE SEQUENCE.
Liu F., Lu J., Hu W., Wang S.-Y., Cui S.-J., Chi M., Yan Q.,
Wang X.-R., Song H.-D., Xu X.-N., Wang J.-J., Zhang X.-L., Wang Z.-Q.,
Xue C.-L., Brindley P.J., McManus D.P., Yang P.-Y., Feng Z., Chen Z.,
Han Z.-G.;
                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "The full-length cDNA sequences of Schistosoma japonicum genes."; Submitted (NOV-2004) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Shewanella sp. PV-4.
Bacteria; Proteobacteria; Gammaproteobacteria; Alteromonadales;
Shewanellaceae; Shewanella.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "New Perspectives on Host-parasite Interplay by Comparative
Transcriptomic and Proteomic Analyses of the Human Blood Fluke,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              55.6%; Score 5; DB 2; Length 126; 100.0%; Pred. No. 4.9e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0; Indels
                                                                                                                                                         0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Schistosoma japonicum.";
Submitted (FEB-2005) to the EMBL/GenBank/DDBJ databases.
                                                                      120 AA; 14050 MW; 96E8CCE346986E27 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       126 AA; 14649 MW; F44CAF4F9495A4DC CRC64;
GO; GO:0008080; F:N-acetyltransferase activity; IEA.
GO; GO:0016740; F:transferase activity; IEA.
Transferase.
                                                                                                             55.6%; Score 5; DB 2; Ler
100.0%; Pred. No. 4.7e+02;
Live 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       06-DEC-2005, integrated into UniProtKB/TrEMBL.
06-DEC-2005, sequence version 1.
07-FEB-2006, entry version 3.
07-EBD-rane protein, putative precursor.
ORFNames=ShewDRAFT_2962;
                                                                                                                                                                                                                                                                                                                                                                                           29-MAR-2005, integrated into UniProtKB/TrEMBL
                                                                                                                                                                                                                                                                                                                                                 PRELIMINARY; PRT; 126 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRT; 128 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         100.0%; Prec. ...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL; AY812887; AAW24619.1; -; mRNA.
                                                                                                                                                                                                                                                                                                                                                                                                              29-MAR-2005, sequence version 1. 07-FEB-2006, entry version 4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRELIMINARY;
                                                                                                                                                           5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    [1]
NUCLEOTIDE SEQUENCE.
                                                                                                                 Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=323850;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ||||||
KVDDT 26
                                                                                                                                                                                                                                          34 KVDDT 38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 KVDDT 5
                                                                                                                                                                                                   1 KVDDT 5
                                                                                                                                                                                                                                                                                                                         7 SCHJA
QEDHT7 SCHJA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                033XT4_9GAMM
033XT4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STRAIN=PV-4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          .;
2
                                                                        SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE
                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                            RESULT 99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 ID 033XT4
1 ID 060
1 ID 070
1 ID 060

          % ¥ ¥ 8
                                                                                                                                                                                                                                                                                                                                                                         ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms
Distributed under the Creative Commons Attribution-NoDerivs License
US DOE Joint Genome Institute (JGI-PGF);

Copeland A., Lucas S., Lapidus A., Barry K., Detter C., Glavina T.,
Hammon N., Israni S., Pitluck S., Richardson P.;
"Sequencing of the draft genome and assembly of Shewanella sp. PV-4.";
Submitted (JUL-2005) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                        Lariner F., Land M.;
Lariner F., Land M.;
"Annotation of the draft genome assembly of Shewanella sp. PV-4.";
Submitted (NOV-2005) to the EMBL/GenBank/DDBJ databases.
-!- CAUTION: The sequence shown here is derived from an
EMBL/GenBank/DDBJ whole genome shotgun (WGS) entry which is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STRAIN=0157:H7 / EDL933 / ATCC 700927 / EHEC;
PETR N.T., Plunkett G. III, Burland V., Mau B., Glasner J.D.,
Rose D.J., Mayhew G.F., Evans P.S., Gregor J., Kirkpatrick H.A.,
Posfai G., Hackett J., Klink S., Boutin A., Shao Y., Miller L.,
Grotbeck E.J., Davis N.W., Lim A., Dimalanta E.T., Potamousis K.,
Apodaca J., Anantharaman T.S., Lin J., Yen G., Schwartz D.C.,
Welch R.A., Blattner F.R.;
"Genome sequence of enterohaemorrhagic Escherichia coli 0157:H7.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Bacteria; Proteobacteria; Gammaproteobacteria; Enterobacteriales;
Enterobacteriaceae; Escherichia.
NCBI_TaxID=83334;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 55.6%; Score 5; DB 2; Length 128; Best Local Similarity 100.0%; Pred. No. 5e+02; Matches 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         55.6%; Score 5; DB 2; Length 128;
100.0%; Pred. No. 5e+02;
ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 20 Potential.
128 Aa; 13939 Mw; 25FEDA74705A22BB CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               128 AA; 14229 MW; DAI7C71370F86470 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EMBL; AALS01000003; EAP03875.1; -; Genomic_DNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-MAR-2002, integrated into UniProtKB/TrEMBL. 01-MAR-2002, sequence version 1. 07-FBE-2006, entry version 15. 07-BE-2006, entry version 15. OrderedLocusNames=z2511;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    128 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL; AE005174; AAG56523.1; -; Genomic_DNA.
PIR; G85757; G85757.
                                                                                                                                                                                                                                                                    STRAIN=PV-4;
US DOE Joint Genome Institute (JGI-ORNL);
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRELIMINARY; PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 55.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Nature 409:529-533(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Escherichia coli 0157:H7.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5; Conservative
```

```
PIR; AC0079; AC0079.
                                                                                                                                                                                                                                                                                               ACT_SITE
ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DISULFID
DISULFID
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           YERPE
                                                                                                                                                                                                                                                            CHAIN
                                                                                                                                                                                                                                                                                                                                                                           METAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                     METAL
                                                                                                                                                                                                                                                                                                                                     METAL
                                                                                                                                                                                                                                                                                                                                                                                                                 METAL
          DORANGO DA REPUTE LA LA COMBANA DE LA COMBAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                             WEDLINE=22977040; PubMed=14621292; DOI=10.1093/dnares/10.4.137; Nakamura Y., Kaneko T., Sato S., Mimuro M., Miyashita H., Tsuchiya T., Sagamoto S., Watanabe A., Kawashima K., Kishida Y., Kiyokawa C., Kohara M., Matsumoto M., Matsumo A., Nakazaki N., Shimpo S., Takeuchi C., Yamada M., Tabata S.; Nakazaki N., Shimpo S., "Complete genome structure of Gloeobacter violaceus PCC 7421, a cyanobacterium that lacks thylakoids.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms
Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2
                                                                                                                                                                                                                                  Bacteria; Cyanobacteria; Gloeobacteria; Gloeobacterales; Gloeobacter.
NCBI_TaxID=33072;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-JUN-2001, sequence version 1.
07-MRA-2006, entry version 31.
Phospholipase A2 (EC 3.1.1.4) (Phosphatidylcholine 2-acylhydrolase).
Apis cerana cerana (Oriental honeybee).
Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
Neoptera; Endopterygota; Hymenoptera; Apocrita; Aculeata; Apoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  55.6%; Score 5; DB 2; Length 130; 100.0%; Pred. No. 5e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            130 AA; 15261 MW; 3EF2C32C890C7F6A CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-NOV-2002, integrated into UniProtKB/Swiss-Prot.
                                                                                                                                                                                                                                                                                                           NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
STRAIN=PCC 7421;
                                                                                                                                  15-DEC-2003, integrated into UniProtKB/TrEMBL.
                                                                                                  130 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   134 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL; BA000045; BAC91572.1; -; Genomic_DNA.
BioCyc; GVIO251221:GLL3631-MONOMER; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRT;
                                                                                                  PRT;
                                                                                                                                                    15-DEC-2003, sequence version 1.
OFFRB-2006, entry version 9.
Gl13611 protein.
OrderedLocusNames=gl13631;
                                                                                              PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NUCLEOTIDE SEQUENCE [MRNA].
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Complete proteome. SEOUENCE 130 AA:
  14 KVDDT 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  11 KVDDT 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Apidae, Apis.
NCBI_TaxID=94128;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 KVDDT 5
                                                                                              Q7NF95_GLOVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PA2_APICC
Q9BMK4;
                                                                                                                  07NP95;
                                                        RESULT 102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
윱
                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
```

```
Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STRAIN-CO-92 / Biovar Orientalis;
MEDLINE=21470413; PubMed=11586360; DOI=10.1038/35097083;
MEDLINE=21470413; PubMed=11586360; DOI=10.1038/35097083;
Parkhill J., Wren B.W., Thomson N.R., Titball R.W., Mungall K.L.,
Prentice M.B., Sebaihia M., James K.D., Churcher C.M., Mungall K.L.,
Baker S., Basham D., Bentley S.D., Brooks K., Cerdeno-Tarraga A.-M.,
Chillingworth T., Cronin A., Davies R.M., Davis P., Dougan G.,
Peltwell T., Hamiin N., Holroyd S., Jagels K., Karlyshev A.V.,
Leather S., Moule S., Oyston P.C.F., Quail M.A., Rutherford K.M.,
Simmonds M., Skelton J., Stevens K., Whitehead S., Barrell B.G.;
"Genome sequence of Yersinia pestis, the causative agent of plague.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Yersinia pestis.
Bacteria, Proteobacteria, Gammaproteobacteria, Enterobacteriales;
Enterobacteriaceae, Yersinia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         similarity).
Calcium (By similarity).
N-linked (GlcNAc. . .) (Potential).
                                                            InterPro; IPR008774; Phospholip A2.
InterPro; IPR013090; Phospholip A2 AS.
InterPro; IPR013090; Phospholip A2 AS.
InterPro; IPR01221; Phospholip A2; I.
PAWTHER; PTR12253; Phospholip A2; I.
SMART; SM00085; PA2c; I.
SMART; SM00085; PA2c; I.
PROSITE; PS00119; PA2 ASP; FALSE NEG.
PROSITE; PS00118; PA2 AIS; I.
Allergen; Calcium; Glycoprotein; Hydrolase; Lipid degradation;
                                                                                                                                                                                                                                                                                                                                                                                                   similarity).
Calcium (via carbonyl oxygen) (By similarity).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Calcium (via carbonyl oxygen) (By
                                                                                                                                                                                                                                                                                                                                                          By similarity.
Calcium (via carbonyl oxygen)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 1; Length 134;
.. 5.1e+02;
ches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAC19BF92E4EC849 CRC64;
                                                                                                                                                                                                                                                                                                              /FTIG=PRO 0000161722
By similarity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-MAR-2002, integrated into UniProtKB/TrEMBL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       By similarity.
By similarity.
By similarity.
By similarity.
By similarity.
By similarity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      55.6%; Score ,,
100.0%; Pred. No. 5.1e-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  134 AA.
                                                                                                                                                                                                                                                                                         Phospholipase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; AJ414143; CAC89494.1; -; Genomic_DNA.
EMBL; AF321087; AAK09361.1; -; mRNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-MAR-2002, sequence version 1. 07-FEB-2006, entry version 15. Hypothetical protein YPO0641.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    15197 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity 100.00
Best Local Si Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OrderedLocusNames=YPO0641;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Nature 413:523-527(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           35
13
31
70
63
95
                                                                                                                                                                                                                                                                                         134
                                                                                                                                                                                                                                                                                                                                   34
64
                                                                                                                                                                                                                                                                                                                                                                                                                          10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9
30
37
61
105
134 AA;
                         HSSP; P00630; 1POC
SMR; Q9BMK4; 1-134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ||||||
64 DDTFY 68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3 DDTFY 7
                                                                                                                                                                                                                                                                                                                                   34
64
8
                                                                                                                                                                                                                                                                                                                                                                                                                          10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NCBI_TaxID=632;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QBZI74_YERPE
Q8ZI74;
```

retinoic

S K B

RESULT 105

1D DTT AND DTT

ઠે 셤

```
Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       By similarity.
Cellular retinoic acid-binding protein 2.
/FTId=PRO 0000067417.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Bacteria; Proteobacteria; Deltaproteobacteria; Desulfovibrionales; Desulfovibrionaceae; Desulfovibrio.
Endocrinology 136:2730-2740(1995).

-!- FUNCTION: Cytosolic CRABPs may regulate the access of retinoic acid to the nuclear retinoic acid receptors. CRABP2 may participate in a regulatory feedback mechanism to control the action of retinoic acid on cell differentiation.

-!- SUBCELLULAR LOCATION: Cytoplasm.
-!- SIMILARITY: Belongs to the fatty-acid binding protein (FABP)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US DOE Joint Genome Institute;

Copeland A., Lucas S., Lapidus A., Barry K., Detter J.C., Gla Hammon N., Israni S., Pitluck S., Goodwin L.A., Schmutz J., Larimer F., Land M., Kyrpides N., Ivanova N., Richardson P.; "Complete sequence of Desulfovibrio desulfuricans G20.", Submitted (AUG-2005) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 1; Length 138;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          55.6%; Score 5; DB 2; Length 138;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL; CP000112; ABB37440.1; -; Genomic_DNA.
Complete proteome; Hypothetical protein.
SEQUENCE 138 AA; 15826 MW; 86C9458336FF3415 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               138 AA; 15802 MW; BD9A90A502FC7841 CRC64;
                                                                                                                                                                                                                                                                                                                                              EMBL; U23407; AAA80225.1; -; mRNA.
PIR; 153299; 153298.
HISSP; P29373; 1CBS.
SMR; P51673; 1-138.
Ensembl; ENSRNOG0000022101; Rattus norvegicus.
RGD; 62070; Crabp2.
GO; GO:0005737; C:cytoplasm; IDA.
GO; GO:0005737; C:cytoplasm; IDA.
GO; GO:0005737; P:tipid binding; TAS.
GO; GO:000889; F:lipid transport; NAS.
InterPro; IPR011574; Calycin.
InterPro; IPR010566; Lipocln_cytFABP.
InterPro; IPR000666; Lipocln_cytFABP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q315F6;
06-DEC-2005, integrated into UniProtKB/TrEMBL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  138 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      55.6%; Score 5; DB 1
100.0%; Pred. No. 5.3
:ive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (strain G20).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 06-DEC-2005, sequence version 1.
21-FEB-2006, entry version 4.
Hypothetical protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pfam; PF00061; Lipocalin; 1.
PRINTS; PR00178; FATTYACIDBP
PROSITE; PS00214; FABP; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q315F6 DESDG PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Desulfovibrio desulfuricans
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         OrderedLocusNames=Dde 0639;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Transport; Vitamin A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=207559;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DDTFY 52
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3 DDTFY 7
                                                                                                                                                                                                              family
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          INIT MET
CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DESDG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
      Set Tites of the control of the cont
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NUCLEOTIDE SEQUENCE [MRNA].
STRAIN=Spzague-Dawley, TISSUB=Corpus luteum;
STRAIN=Spzegue-Dawley, TISSUB=Corpus luteum;
MEDLINE=95269720, PubMed=7756498; DOI=10.1210/en.136.6.2730;
Bucco R.A., Melner M.H., Gordon D.S., Leers-Sucheta S., Ong D.E.;
"Inducible expression of cellular retinoic acid-binding protein II in rat ovary: gonadotropin regulation during luteal development.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Eutheria; Buarchontoglires; Glires; Rodentia; Sciurognathi;
Muroidea; Muridae; Murinae; Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               07-FEB-2006, entry version 34.

callular retinoic acid-binding protein 2 (Cellular retinoic acid-binding protein II) (CRABP-II) (Retinoic acid-binding protein II, cellular).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bacteria; Proteobacteria; Alphaproteobacteria; Sphingomonadales; Erythrobacteraceae; Erythrobacter.
                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ŝ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GIVAIN-HTCC2594,
Giovannoni S.J., Cho J.-C., Ferriera S., Johnson J., Kravits
Giovannoni S.J., Cho J.-C., Ferriera S., Johnson J., Kravits
Halpern A., Remington K., Beeson K., Tran B., Rogers Y.-H.,
Friedman R., Venter J.C.;
                                                                                                                      Length 134;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            55.6%; Score 5; DB 2; Length 137;
100.0%; Pred. No. 5.2e+02;
ative 0; Mismatches 0; Indels
                                                                                                                                                                                IndelB
BioCyc; YPES632:YPO0641-MONOMER; -.
Complete proteome; Hypothetical protein.
SEQUENCE 134 AA; 15056 MW; 578A769DC5545ABC CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4ypothetical protein.
SEQUENCE 137 AA; 15233 MW; F2C80E5227024B78 CRC64;
                                                                                                                55.6%; Score 5; DB 2; Len:
100.0%; Pred. No. 5.1e+02;
ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-OCT-1996, integrated into UniProtKB/Swiss-Prot
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   07-FEB-2006, integrated into UniProtKB/TrEMBL. 07-FEB-2006, sequence version 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                            137 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        138 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL; CP000157; ABC62691.1; -; Genomic_DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                         PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ...grated into Uni
07-FEB-2006, sequence version 1.
Hypothetical protein.
ORFNames=ELI 02007
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-OCT-1996, sequence version 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                            PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity 100...
Fra 5; Conservative
                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Rattus norvegicus (Rat).
                                                                                     Query Match
Best Local Similarity
5; Conserv?
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         124 KVDDT 128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=314225;
                                                                                                                                                                                                                                                                                                91 DTFYY 95
                                                                                                                                                                                                                                       00
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ŋ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NCBI_TaxID=10116;
                                                                                                                                                                                                                                       4 DTFYY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 KVDDT
                                                                                                                                                                                                                                                                                                                                                                                                                                   QZNCAO 9SPHN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Name=Crabp2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RABP2 RAT
P51673;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                 9SPHN
```

RESULT 106

ઠે 유

ö

Gaps

ö

Indels

Glavina T.,

```
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
       ઠે
                                                                                                                                                                                                                                                                         Transcriber Secure Cone C9;

STRAIN-Ankara isolate clone C9;

PubMed=15994597; DOI=10.1258/jrsm.98.7.320;

PubMed=15994597; DOI=10.1258/jrsm.98.7.320;

Rain A., Remauld H., Berriman M., Murphy L., Yeats C.A., Weir W.,

Rethornou A., Aslett M., Bishop R., Bouchier C., Cochet M.,

Rethornou A., Goble A., Griffiths Jones B.P., Fraser A., Fosker N.,

Adardner M., Lord A., Maser P., McKellar S., Mooney P., Morton F.,

Neme V., O'Neil S., Price C., Quali M.A., Rabbinowitsch E.,

Rawlings N.D., Rutter S., Saunders D., Seeger K., Shah T., Squares S., Tivey A., Walker A.R., Woodward J., Dobbelaere D.A.B.,

Langsley G., Rajandream M.A., McKeever D., Shiels B., Tait A.,

Barrell B., Hall N.;

"Genome of the host cell transforming parasite Theileria annulata

"Science 309:131-133(2005).
                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUCLECTIDE SEQUENCE [GENOMIC DNA], FUNCTION, PHOSPHORYLATION, AND INTERACTION WITH SHK1.
MEDLINE=20062809; PubMed=10593886; DOI=10.1074/jbc.274.51.36052;
                ö
                                                                                                                                                                                         ORFNames=TA08600;
Theileria annulata.
Eukaryota; Alveolata; Apicomplexa; Piroplasmida; Theileriidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                55.6%; Score 5; DB 2; Length 139; 100.0%; Pred. No. 5.3e+02; Live 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        07-JUN-2004, integrated into UniProtKB/Swiss-Prot. 01-MAY-2000, sequence version 1. 07-FBB-2006, entry version 1. 07-FBB-2006, entry version 5. Shkl kinase-binding protein 5. Name-skb5; ORFNames-SPCC24B10.13; Schizosaccharomyces pombe (Fission yeast). Bukaryota; Fungi; Ascomycota; Schizosaccharomycetes; Schizosaccharomycetales; Schizosaccharomycetales; Schizosaccharomycetales; Schizosaccharomycetales; NCBI_TaxID=4896;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL; CR940353; CAI76506.1; -; Genomic_DNA.
Hypothetical protein.
SEQUENCE 139 AA; 17030 MW; 505F5095085006DA CRC64;
Best Local Similarity 100.0%; Pred. No. 5.3e+02; Matches 5; Conservative 0; Mismatches 0;
                                                                                                                                        05-JUL-2005, integrated into UniProtKB/TrEMBL. 05-JUL-2005, sequence version 1. 07-FEB-2006, entry version 3. Hypothetical protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     140 AA.
                                                                                                                    Q4U9J7 THEAN PRELIMINARY; PRT;
Q4U9J7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Best Local Similarity 100.
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STANDARD;
                                                                                                                                                                                                                                                                    NUCLEOTIDE SEQUENCE.
                                                   |||||
132 KVDDT 136
                                    1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            70 DDTFY 74
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3 DDTFY 7
                                                                                                                                                                                                                                            NCBI_TaxID=5874;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SKB5 SCHPO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                        THEAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               6<u>5</u>Sn60
                                                                                             RESULT 108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SKB5_SCHPO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 109
                                                          셤
                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
```

```
Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -!- SUBUNIT: Interacts with N-terminal regulatory domain of shkl via
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -i- PTM: Phosphorylated in vivo. In vitro, phosphorylated by shkl.
Yang P., Pimental R., Lai H., Marcus S.; "Direct activation of the fission yeast PAK Shk1 by the novel SH3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Shk1 kinase-binding protein 5. /FTId=PRO_000097777.
                                                                                                          MEDLINE=21848401; PubMed=11859360; DOI=10.1038/nature724;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    55.6%; Score 5; DB 1; Length 140; 100.0%; Pred. No. 5.3e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   152B7D68DED80A20 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL; AF192549; AAF19175.1; -; Genomic_DNA.
EMBL; AL157991; CAB76222.1; -; Genomic_DNA.
FIR; T50420; T50420.
HSSP; P06239; LLCK.
GeneDB Spombe; SPCC24B10.13; -.
BioCyc; SPOM-XXX-01.8POM-XXX-01.002344-MONOMER; -.
GO; GO:0019901; F:protein binding; IPI.
GO; GO:0019901; F:protein kinase binding; IDA.
InterPro; IPR001452; SH3.
PFfam; PR00452; SH3. 1, 1.
PRINTS; PR00452; SH3. 1.
SMART; SM0326; SH3; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Complete proteome; Phosphorylation; SH3 domain.
                                                                            NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            100.0%; Pred. ...
                            domain protein, Skb5.";
J. Biol. Chem. 274:36052-36057(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SH3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    140 AA; 15857 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local Similarity 100.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PROSITE; PS50002; SH3; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                41 VDDTF 45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SH3 domain.
```

Hannick L.,

```
Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms
Distributed under the Greative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Chow T.-Y., Hsing Y.-I.C., Chen C.-S., Chen H.-H., Liu S.-M.,
Chao Y.-T., Chang S.-J., Chen H.-C., Chen S.-K., Chen T.-R.,
Chen Y.-L., Cheng C.-H., Chung C.-I., Han S.-Y., Hsiao S.-H.,
Hsiung J.-M., Hsu C.-H., Huang J.-J., Kau P.-I., Lee M.-C., Leu H.-L.,
Li Y.-P., Lin S.-J., Lin Y.-C., Wu S.-W., Yu C.-Y., Yu S.-W.,
Wu H.-P., Shaw J.-R.,
Submysa sativa BAC OSJNBa0086E02 genomic sequence.";
submitted (OCT-2004) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Oryza sativa (japonica cultivar-group).
Bukaryota, Viridiplantae, Streptophyta; Embryophyta, Tracheophyta;
Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; BEP clade;
Ehrhartoideae; Oryzeae; Oryza.
                        STRAIN-GUTATIO.1;
Ghedin E., Blandin G., Bartholomeu D., Caler E., Haas B., Hannia Ghedin E., Blandin G., Bartholomeu D., Caler E., Hostetler J.,
Johnson J., Jones K., Koo H.L., Larkin C., Pai G., Peterson J.,
Khalak H.G., Salzberg S., Simpson A.J., Tallon L., Van Aken S.,
Wanless D., White O., Wortman J., Fraser C.M., El-Sayed N.M.A.;
Submitted (JUL-1999) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                55.6%; Score 5; DB 2; Length 147; 100.0%; Pred. No. 5.5e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      55.6%; Score 5; DB 2; Length 147;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Haas B., Blandin G., El-Sayed N.;
Submitted (APR-2005) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                       STRAIN=GUTatl0.1;
El-Sayed N.M., Khalak H., Adams M.D.; st. SDBJ databases.
Submitted (JUL-199) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL; AC008146; AAX80287.1; -; Genomic_DNA.

GO; GO:0005634; C:nucleus; IEA.

GO; GO:0007530; P:sex determination; IEA.

INTERPO; IPR004023; Mago_nashi.

PANTHER; PTHR12638; Mago_nashi; 1.

PFam; PPC792; Mago_nashi; 1.

PFam; PPC792; Mago_nashi; 1.

SEQUENCE 147 AA; 17147 MW; 1BFBEE46A0D3C187 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Hypothetical protein.
SEQUENCE 147 AA; 16892 MW; D89A943DCF1A649 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          23-NOV-2004, integrated into UniProtKB/TrEMBL, 23-NOV-2004, sequence version 1. 07-FBB-2006, entry version 6. Hypothetical protein OSJNBa0086E02.8. Name=OSJNBa0086E02.8,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  147 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL; AC144741; AAV25237.1; -; Genomic_DNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORYSA PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5; Conservative
SEQUENCE.
                                                                                                                                                                                                                                                                                                    NUCLEOTIDE SEOUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121 DTFYY 125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STRAIN=GUTat10.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=39947;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4 DTFYY 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gramene; Q60DU6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORYSA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q60DU6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               oeodue_
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
REPRESENTATIONS OF COLOR OF REPRESENTATIONS OF COLOR C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STRAIN-Muguga;
PubMed=1594558; DOI=10.1126/science.1110419;
Raddert.594558; DOI=10.1126/science.1110419;
Gardner M.J., Bishop R., Shah T., de Villiers E.P., Carlton J.M., Hall N., Ren Q., Paulsen I.T., Pain A., Berriman M., Wilson R.J., Sato S., Ralph S.A., Mann D.J., Xiong Z., Shallom S.J., Weidman J., Jiang L., Lynn J., Weaver B., Shoabib A., Domingo A.R., Wassawo D., Crabtree J., Wortman J.R., Hass B., Angiuoli S.V., Creasy T.H., Lu C., Suh B., Silva J.C., Utterback T.R., Feldblyum T.V., Pertea M., Allen J., Nierman W.C., Taracha E.L., Salzberg S.L., White O.R., Pitzhugh H.A., Morzaria S., Venter J.C., Fraser C.M., Nene V.; Genome Sequence of Theileria parva, a Bovine Pathogen That Transforms
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gardner M., Bishop R., Shah T., de Villiers B., Carlton J.M., Hall N., Ren Q., Paulsen I.T., Pain A., Berriman M., Wilson R.J.M., Sato S., Ralph S.A., Mann D.J., Xiong Z., Shallon S.J., Weidman J., Jiang L., Lynn J., Weaver B., Shoaibi A., Wasawo D., Crabtree J., Wortman J.R., Haas B., Angiuoli S., Creasy T.H., Lu C., Suh B., Silva J.C., Utterback T., Feldbyum T., Pertea M., Allen J., Taracha B.L., Salzberg S.L., White O., Fitzhugh H.A., Morzaria S., Venter J.C., Fraser C.M., Nene V.; to the EMBL/GenBank/DBD databases.

Submitted (JUN-2005) to the EMBL/GenBank/DBD databases.

-I. CAUTION: The sequence shown here is derived from an EMBL/GenBank/DDBJ whole genome shotgun (WGS) entry which is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Trypanosoma brucei.
Bukaryota, Buglenozoa, Kinetoplastida, Trypanosomatidae, Trypanosoma.
NCBI_TaxID=5691;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                .;
0
                                                                                                                                                                                                                                                                                                                                Bukaryota; Alveolata; Apicomplexa; Piroplasmida; Theileriidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   55.6%; Score 5; DB 2; Length 141; 100.0%; Pred. No. 5.4e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mypothetical protein.
SEQUENCE 141 AA; 17475 MW; 1694DEA5448EFFDA CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL; AAGK01000004; EAN31818.1; -; Genomic_DNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       97 9TRYP
Q586G7_9TRYP PRELIMINARY; PRT; 147 AA.
Q586G7;
10-MAY-2005, integrated into UniProtKB/TrEMBL.
10-MAY-2005, sequence version 1.
07-FEB-2006, entry version 3.
Mago nashi-like protein, putative.
ORFNames=Tb927.6.4950;
                                                                                                                              02-AUG-2005, integrated into UniProtKB/TrEMBL.
                                                               141 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            100.0%; Preu. ...
                                                           PRT;
                                                                                                                                                              02-AUG-2005, sequence version 1.
                                                                                                                                                                                       07-FBB-2006, entry version 3. Hypothetical protein. ORFNames=TP04_0466;
                                                           PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Science 309:134-137(2005).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Local Similarity 100.
Les 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  preliminary data.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DDTFY 74
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3 DDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                   NCBI_TaxID=5875;
                                                                                                                                                                                                                                                                                                    Pheileria parva
                                                    Q4N291_THEPA
Q4N291;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Lymphocytes.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRAIN=Muguga;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                            THEPA
```

Best Loc Matches

ò 셤 RESULT 111 Q586G7_9TR

Ξ

ö

Gaps

```
149 AA; 16678 MW; 79D0C6C5190C30B7 CRC64;
                                                                                                                                                           Nature 422:888-893(2003).
                                                                                                                                                                                                                                                                                                                                                          Local Similarity 100.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUCLEOTIDE SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                               47 VDDTF 51
                                                                                                                                                                                                                                                                                                                                                                                               2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Monooxygenase.
NON TER 145
SEQUENCE 149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QSIFZ7_9PROT
QSIFZ7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    California."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Name=amoA;
                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 115
QSIFZ7 9PROT
                                                                                                                                                                                                                                                                                                                                                                        Matches
      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TRAINERJOCTUZ 11-130;

Pubmed=15028702; DOI=10.1128/JB.186.7.2164-2172.2004;

Pubmed=15028702; DOI=10.1128/JB.186.7.2164-2172.2004;

Nascimento A.L.T.O., Ko A.I., Martins E.A.L., Monteiro-Vitorello C.B., A. Ho P.L., Haake D.A., Verjovski-Almeida S., Hartskeerl R.A. Carrer H., Coutinho L.L., Degrave W.M., Dellagostin O.A., El-Dorry H., Coutinho L.L., Degrave W.M., Dellagostin O.A., El-Dorry H., Goes-Neto A., Goldman G.H., Goldman M.H.S., Harakava R., Jeronimo S.M.B., Junqueira-de-Azevedo I.L.M., Kimura E.T., Kuramae E.E., Lemos B.C.M., Lemos M.V.F., Marino C.L., Nunes L.R., A de Oliveira R.C., Pereira G.G., Reis M.S., Schriefer A., Sommer P., Tsai S.M., Simpson A.J.G., Ferro J.A., Siqueira W.J., Sommer P., Tsai S.M., Simpson A.J.G., Ferro J.A., T. Comparative genomics of two Leptospira interrogans serovars reveals T. novel insights into physiology and pathogenesis.";
               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                          Bacteria; Spirochaetes; Spirochaetales; Leptospiraceae; Leptospira.
NCBI_TaxID=44275;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                    Leptospira interrogans serogroup Icterohaemorrhagiae serovar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     55.6%; Score 5; DB 2; Length 148; 100.0%; Pred. No. 5.6e+02; ive 0; Mismatches 0; Indels
              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; AE016823; AAS70570.1; -; Genomic DNA.
GO; GO: 0003824; F:catalytic activity; ĪEA.
InterPro; IPR003736; PAAI.
InterPro; IPR00683; Thioestr_supf.
Pfam; PF03061; 4HBT; 1.
TIGRFAMS; TIGR0369; unchar dom 1; 1.
Complete proceome; Hypothetical protein.
SEQUENCE 148 AA; 16851 MW; 11B58255C1FC528D CRC64;
  Pred. No. 5.5e+02;
0; Mismatches 0;
                                                                                                                                                                                         OrderedLocusNames=LIC11994; ORFNames=LIC_11994;
                                                                                                                                                                                                                                                            NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
                                                                                                                                        05-JUL-2004, integrated into UniProtKB/TrEMBL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0.1.MAR.2003, integrated into UniProtKB/TrEMBL. 01-MAR-2003, sequence version 1. O7-MAR-2006, entry version 11. O7Pothetical protein. OrderedLocusNames=LA1908; ORFNames=LA_1908;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        148 AA.
 Pred. No.
                                                                                                                    PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRT;
                                                                                                                                                   05-JUL-2004, sequence version 1.
07-FEB-2006, entry version 9.
Hypothetical protein.
Best Local Similarity 100.0%;
Matches 5; Conservative 0
                                                                                                                  PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local Similarity 100.
188 5; Conservative
                                                        136 KVDĎT 140
                                   1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          47 VDDTF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QBF4Y0 LEPIN
                                                                                                                  Q72QW4_LEPIC
Q72QW4;
                                                                                                                                                                                                               copenhageni
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local &
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LEPIN
                                                                                           RESULT 113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                      Q72QW4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q8F4Y0
                                                       셤
                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                              STRAIN=56601 / Serogroup Iccerchaemorrhagiae / Serovar lai,
MEDLINE=22598143; PubMed=12712204; DOI=10.1038/nature01597;
Ren S.-X., Pu G., Jiang X.-G., Zeng R., Miao Y.-G., Xu H.,
Zhang Y.-X., Xiong H., Lu G., Lu L.-F., Jiang H.-Q., Jia J., Tu Y.-F.,
Jiang J.-X., Gu W.-Y., Zhang Y.-Q., Cai Z., Sheng H.-H., Xin H.-F.,
Zhang Y., Zhu G.-F., Wan M., Huang H.-L., Qian Z., Wang S.-Y., Ma W.,
Yao Z.-J., Shen Y., Qiang B.-Q., Xia Q.-C., Guo X.-K., Danchin A.,
Saint Girons I., Somerville R.L., Wen Y.-M., Shi M.-H., Chen Z.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bacteria, Proteobacteria, Betaproteobacteria, Nitrosomonadales, Nitrosomonadaceae, environmental samples.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ammonia-
                                                                                                                                                                                                                                                                                                                                                                                                                 "Unique physiological and pathogenic features of Leptospira interrogans revealed by whole-genome sequencing.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             55.6%; Score 5; DB 2; Length 148; 100.0%; Pred. No. 5.6e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         O'Mullan G.D., Ward B.B.;
"Relationship of Temporal and Spatial Variabilities of Amm
Oxidizing Bacteria to Nitrification Rates in Monterey Bay,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL; AE010300; AAN49107.1; -; Genomic_DNA.
GenomeReviews; AE010300 GR; LA1908.
BioCyc.; LINT189518.LA1908-MONOMER; -.
GO; GO:0003844; Fricatalytic activity; IEA.
InterPro; IPR003736; PAA.
InterPro; IPR00663; Thioestr_supf.
Pfam; PF03061; 4HBT; 1.
TIGRPAMs; TIGR00369; unchar dom 1; 1.
Complete proteome; Hypothetical protein.
SEQUENCE 148 AA; 16851 MW; 11B58255CIFC528D CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL; AY736858; AAV91797.1; -; Genomic_DNA.
GO; GO:01016020; C:membrane; IEA.
GO; GO:0004497; F:monooxygenase activity; IEA.
GO; GO:0006807; P:nitrogen compound metabolism; IEA.
InterPro; IPR003393; NH3_CH4_mOase_A.
Pfam; PF02461; AMO; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PubMed=15691919; DOI=10.1128/AEM.71.2.697-705.2005;
[1]
NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC_DIA]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 15-FEB-2005, integrated into UniProtKB/TrEMBL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  149 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    15-FEB-2005, sequence version 1.
07-FEB-2006, entry version 6.
Ammonia monooxygenase subunit A (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Appl. Environ. Microbiol. 71:697-705(2005).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          uncultured ammonia-oxidizing bacterium.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRELIMINARY;
```

중 음

```
Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms
Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
"Community structure and activity dynamics of nitrifying bacteria in a phosphate-removing biofilm."; Appl. Environ. Microbiol. 67:1351-1362(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL; BX936398; CAH22658.1; -; Genomic_DNA.
Complete proteome; Hypothetical protein.
SEQUENCE 151 AA; 16976 MW; 7B0782A6BD70D7C3 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].

STRAIN=IP32953 / Serotype I;
PubMed=15358858; DOI=10.1073/pnas.0404012101;
Chain P.S.G., Carniel E., Lariner F.W., Lamerdin J., Stoutland P.O.,
Regala W.M., Georgesou A.M., Vergez L.M., Land M.L., Motin V.L.,
Brubaker R.R., Fowler J., Hinnebusch J., Marceau M., Medigue C.,
Simonet M., Chenal-Francisque V., Souza B., Dacheux D., Elliott J.M.,
Derbise A., Hauser L.J., Garcia E.;
"Insights into the evolution of Yersinia pestis through whole-genome
comparison with Yersinia pseudotuberculosis.";
Proc. Natl. Acad. Sci. U.S.A. 101:13826-13831(2004).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              OrderedLocusNames=YPTB3420;
Yersinia pseudotuberculosis.
Yersinia pseudotuberculosis.
Sacteria, Proteobacteria; Gammaproteobacteria; Enterobacteriales;
Enterobacteriacee; Yersinia.
                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      55.6%; Score 5; DB 2; Length 151;
100.0%; Pred. No. 5.7e+02;
ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                      Length 151;
                                                                                                                                                                                                                                                                                                                                                                                            0; Indels
                                                                                                                                                                                                                                                                                                151 151
151 AA; 16954 MW; 7638BED3BD9236A1 CRC64;
                                                                                                                                EMBL; AY007575; AAG22847.1; -; Genomic_DNA.
GO; GO:0016020; C:membrane; IEA.
GO; GO:000497; F:monooxygenase activity; IEA.
GO; GO:0006807; F:mitrogen compound metabolism; IEA.
InterPro; PR003393; NH3_CH4_moase_A.
Pfam; PF02461; AMO; 1.
                                                                                                                                                                                                                                                                                                                                                      55.6%; Score 5; DB 2; Let 100.0%; Pred. No. 5.7e+02; ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              11-OCT-2004, integrated into UniProtKB/TrEMBL.
11-OCT-2004, sequence version 1.
07-FBB-2006, entry version 8.
Hypothetical protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        151 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           153 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRELIMINARY; PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local Similarity 100.
nes 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                5; Conservative
                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       130 TFYYV 134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           108 DTFYY 112
                                                                                                                                                                                                                                                                                                                                                                                                                                   5 TFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4 DTFYY 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QBCKF9 YERPE F
                                                                                                                                                                                                                                                           Monooxygenase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     70 YERPS
Q665U0_YERPS
                                                                                                                                                                                                                                                                         NON TER
NON TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         YERPE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0665U0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q8CKF9
ID Q8(
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE=21633822; PubMed=11772633; DOI=10.1128/AEM.68.1.245-253.2002; Dionisi H.M., Layton A.C., Harms G., Gregory I.R., Robinson K.G.,
                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "Quantification of Nitrosomonas oligotropha-like ammonia-oxidizing bacteria and Nitrospira spp. from full-scale wastewater treatment plants by competitive PRR."; Appl. Brviron. Microbiol. 68:245-253 (2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Name-amoA;
uncultured bacterium B4-3.
Bacteria; Proteobacteria; Betaproteobacteria; Nitrosomonadales;
Nitrosomonadaceae; environmental samples.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUCLEOTIDE SEQUENCE.
MEDLINE-21141854.
DOI=10.1128/AEM.67.3.1351-1162.2001;
Gieseke A., Purkhold U., Wagner M., Amann R., Schramm A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    55.6%; Score 5; DB 2; Length 150; llarity 100.0%; Pred. No. 5.6e+02; Conservative 0; Mismatches 0; Indels
                      55.6%; Score 5; DB 2; Length 149; 100.0%; Pred. No. 5.6e+02;
                                                          0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           150 150
150 AA; 16801 MW; 11DC7A7630D1E276 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL; AF420300; AAL15012.1; -; Genomic_DNA.
GO; GO:0016020; C:membrane; IEA.
GO; GO:000497; F:monooxygenase activity; IEA.
GO; GO:0006807; P:introgen compound metabolism; IEA.
InterPro; IPR003393; NH3_CH4_mOase_A.
Pfam; PF02461; AMO; 1.
                                                                                                                                                                                                                                                                         01-DEC-2001, integrated into UniProtKB/TrEMBL. 01-DEC-2001, sequence version 1. 07-PEB-2006, entry version 12.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-JUN-2001, integrated into UniProtKB/TrEMBL. 01-JUN-2001, sequence version 1. 07-FEB-2006, entry version 13.
                                                                                                                                                                                                                                       150 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     151 AA.
                                                          0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRT;
                                                                                                                                                                                                                                       PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ammonia monooxygenase (Fragment).
                                                                                                                                                                                                                                                                                                                                    Ammonia monooxygenase (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                            Bacteria; environmental samples.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRELIMINARY;
                                                                                                                                                                                                                                       PRELIMINARY;
                                                            5; Conservative
                                                                                                                                                                                                                                                                                                                                                                          uncultured bacterium
                                                                                                                                                                                                                                                                                                                                                                                                                                                       NUCLEOTIDE SEQUENCE.
                    Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
                                                                                                                                      128 TFYYV 132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   129 TFYYV 133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NCBI_TaxID=137839;
                                                                                                  5 TFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5 TFYYV 9
                                                                                                                                                                                                                                     Q93AM5_9BACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q9AF59 9PROT
Q9AF59;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Monooxygenase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sayler G.S.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ..
                                                                                                                                                                                                                                                                                                                                                          Name=amoA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NON TER
NON TER
SEQUENCE
                                                                                                                                                                                                                                                           093AM5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Loc
Matches
                                                            Matches
```

ò

```
Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE=22829867; PubMed=12949112;
DOI=10.1128/JB.185.18.5591-5601.2003;
Nelson K.E., Fleischmann R.D., DeBoy R.T., Paulsen I.T., Fouts D.E.,
Eisen J.A., Daugherty S.C., Dodson R.J., Durkin A.S., Gwinn M.L.,
Haft D.H., Kolonay J.F., Nelson W.C., Mason T.M., Tallon L., Gray J.,
Granger D., Tettelin H., Dong H., Galvin J.L., Duncan M.J.,
Dewhiret F.E., Fraser C.M.;
"Complete genome sequence of the oral pathogenic bacterium
Porphyromonas gingivalis strain W83.";
J. Bacteriol. 185:5591-5601(2003).
       Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              15-DEC-2003, integrated into UniProtKB/TrEMBL.
15-DEC-2003, sequence version 1.
15-DEC-2003, sequence version 1.
17-DEC-2006, entry version 12.
NA-binding protein, histone-like family.
OrderedLocusNames=PG0222; ORFNames=PG 0222;
Porphyromonas agingivalis (Bacteroides gingivalis).
Bacteria, Bacteroidetes, Bacteroidetes, Bacteroidetes.
Porphyromonadaceae; Porphyromonas.
                                                                                                                                                     of ribosome; IEA.
                                                                                                                                                                                                                                                                                                                                                                                          55.6%; Score 5; DB 2; Length 155; llarity 100.0%; Pred. No. 5.8e+02; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     55.6%; Score 5; DB 2; Length 155; 100.0%; Pred. No. 5.8e+02; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                  PROSITE; PS00299; UBIQUITIN 1; 1.
PROSITE; PS50053; UBIQUITIN 2; 1.
SEQUENCE 155 AA; 17732 MW; 8AABCBB392F413C3 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     F6832CF53F5B4DA7 CRC64;
                                                       HSSP; Q862M4; JAAR.

SMR; Q41753; 1-76.

Gramone, Q41753; 1-76.

GO; G0:0005622; C:intracellular; IEA.

GO; G0:0005840; C:ribsome; IEA.

GO; G0:0003135; P:structural constituent of ril

GO; G0:0006412; P:protein blosynthesis; IEA.

GO; G0:0006441; P:protein blosynthesis; IEA.

InterPro; IPR002906; Ribosomal_S27a.

InterPro; IPR00626; Ubiquitin.

Pfam; PF01599; Ribosomal_S27; 1.

Pfam; PF00240; ubiquitin.

Pfam; PF00240; ubiquitin.

Pfam; PF00348; UBIQUITIN.

SMART; SM00213; UBQ; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL; AE015924; AAQ65452.1; -; Genomic_DNA
                                    EMBL; U29160; AAA70104.1; -; Genomic_DNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BIOCYC; PGINA42619; PG0222-MONOMER; -
GO; GO:0003677; F:DNA binding; IEA.
INTERFNC; IPR005902; HU DNA bd put.
TIGREMMS; TIGR01201; HU rel; 1.
COMPLETE protecome; DNA-binding.
SEQUENCE 155 AA; 17249 MW; F6832
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRELIMINARY; PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
Matches 5; Conservat
                                                                                                                                                                                                                                                                                                                                                                                                             Local Similarity
nes 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                107 KVDDT 111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            G7 PORGI
Q7MXG7 PORGI
Q7MXG7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NCBI_TaxID=837;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRAIN=W83
                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                               Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q7MXG7
     요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms
                                                                                                                                                                            WUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
STRAIN=KIMS / Biovar Mediaevalis;
MEDLINE=22137863; PubMed=12142430;
DOI=10.1128/JB.184.16.4601-4611.2002;
Deng W., Burland V., Plunkett G. III, Boutin A., Mayhew G.F., Liss P., Perna N.T., Rose D.J., Mau B., Zhou S., Schwartz D.C.,
Petherston J.D., Lindler L.E., Brubaker R.R., Plano G.V.,
Straley S.C., McDonough K.A., Nilles M.L., Matson J.S., Blattner F.R.,
                                                                                                                                                                                                                                                                                                                                                                                                                       STRAIN=91001 / Biovar Mediaevalis;
PubMed=1536893; DOI=10.1093/dnares/11.3.179;
Song Y., Tong Z., Wang J., Wang L., Guo Z., Han Y., Zhang J., Pei D., Zhou D., Qin H., Pang X., Han Y., Zhai D., Li M., Cui B., Qi Z., Jin L., Dai R., Chen F., Li S., Ye C., Du Z., Lin W., Wang J., Yu J., Yang H., Wang J., Huang P., Yang R.;
"Complete genome sequence of Yersinia pestis strain 91001, an isolate avirulent to humans.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae;
PACCAD clade; Panicoideae; Andropogoneae; Zea.
                                                                                                             Gammaproteobacteria; Enterobacteriales;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STRAIN=Oh43; TISSUE=Radicle;
Liu L., Maillet D.S., Frappier J.H., d'Ailly K., Walden D.B.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 153;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 55.6%; Score 5; DB 2; Length 153;
100.0%; Pred. No. 5.7e+02;
tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Submitted (JUN-1995) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Hypochetical protein.
SEQUENCE 153 AA; 17263 MW; 0FAD7AF02027BB5A CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                        NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
01-MAR-2003, integrated into UniProtKB/TrEMBL. 01-MAR-2003, sequence version 1. 07-PEB-2006, entry version 16.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  O41753 MAIZE PRELIMINARY; PRT; 155 AA. 041753.
01-NOV-1996, integrated into UniProtKB/TrEMBL. 01-NOV-1996, sequence version 1.
07-FEB-2006, entry version 26.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL; AE013957; AAM87089.1; -; Genomic_DNA.
EMBL; AE017138; AAS53134.1; -; Genomic_DNA.
BioCyc; YEES187410:Y3541-MONOMER; -.
BioCyc; YPES229193:YP2954-MONOMER; -.
                                                                                                                                                                                                                                                                                                                                                    "Genome sequence of Yersinia pestis KIM.";
J. Bacteriol. 184:4601-4611(2002).
                                                                    OrderedLocusNames=YP2954, y3541;
                                                                                                           Bacteria, Proteobacteria, Gamu
Enterobacteriaceae, Yersinia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DNA Res. 11:179-197(2004).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ubiquitin fusion protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              110 DTFYY 114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4 DTFYY 8
                                                                                         Yersinia pestis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=4577;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Zea mays (Maize)
                                                                                                                                               NCBI_TaxID=632;
                                                       Hypothetical
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Atkinson B.G.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
```

Gaps

ö

ö

Gaps

;

```
NUCLEOTIDE SEOUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bystematic review.";
                                                                                                                                                                                                                                                                                                              NUCLEOTIDE SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUCLEOTIDE SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Yu C., Rubin G.;
  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINGLINE SEQUENCE:

Adams M.D., Celniker S.E., Holt R.A., Evans C.A., Gocayne J.D.,

Adams M.D., Celniker S.E., Holt R.A., Evans C.A., Gocayne J.D.,

Amanatides P.G., Scherer S.E., Li P.W., Hoskins R.A., Galle R.F.,

George R.A., Lewis S.E., Richards S., Ashburner M., Henderson S.N.,

Sutton G.G., Wortman J.R., Yandell M.D., Zhang Q., Chen L.X.,

Brandon R.C., Rogers Y.-H.C., Blazej R.G., Champe M., Pfeiffer B.D.,

Wan K.H., Doyle C., Baxer B.G., Helf G., Welson C.R., Miklos G.L.G.,

Abril J.F., Agbayani A., An H.-J., Andrews Pfannkoch C., Baldwin D.,

Ballew R.M., Basu A., Berman B.P., Bhandari D., Basley E.M.,

Borkova D., Botchan M.R., Bouck J., Brokstein P., Brottier P.,

Burtis K.C., Busam D.A., Buller H., Cadleu E., Center A., Chandra I.,

Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P.,

A bodson K., Doup L.E., Downes M., Digan-Rocha S., Pleischmann W.,

A burbin K.J., Evangelista C.C., Ferriera S., Fleischmann W.,
                                                                                                                                                                                                                                                                                                                       Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                        Xu C.S., Zhang L., Chang C.F., Han H.P., Wang G.P., Chai L.Q.,
Yuan J.Y., Yang K.J., Zhao L.F., Ma H., Wang L., Wang S.F., Xing X.K.,
Shen G.M., Shi J.B., Rahman S., Wang O.N., Zhang J.B.;
Submitted (FEB-2004) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                 Rattus norvegicus (Rat).
Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Euarchontoglires, Glires, Rodentia, Sciurognathi,
Muroidea, Muridae, Murinae, Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Drosophila melanogaster (Fruit fly).
Eukaryota, Metazoa, Arthropoda, Hexapoda, Insecta, Pterygota,
Neoptera, Endopterygota, Diptera, Brachycera, Muscomorpha,
Ephydroidea, Drosophilidae, Drosophila.
                                                                                                                                                                                                                                                                                                                                                                                                                55.6%; Score 5; DB 2; Length 155; 100.0%; Pred. No. 5.8e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                          EMBL; AY539928; AAS66268.1; -; mRNA.
Ensembl; ENSRNOG0000033993; Rattus norvegicus.
SEQUENCE 155 AA; 17255 MW; 118B278B491FADEB CRC64;
                                                                                                              05-JUL-2004, integrated into UniProtKB/TrEMBL.
05-JUL-2004, sequence version 1.
07-FEB-2006, entry version 6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-MAY-2000, integrated into UniProtKB/TrEMBL.
                                                                                        155 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          157 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRELIMINARY; PRT;
                                                                                       PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CG15278-PA.
ORFNames=CG15278, Dmel_CG15278;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-OCT-2002, sequence version 07-FEB-2006, entry version 18.
                                                                                       PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                           NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
                        131 KVDDT 135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |||||
147 DTFYY 151
                                                                                                                                                                                                                     NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4 DTFYY 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NCBI_TaxID=7227;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q9VJR2_DROME
Q9VJR2;
                                                                                                                                                      LRRGT00177.
                                                                                                                                                                                                                                                                                                                                                                                                                                            ..
                                                                                     QGQI31_RAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 123
Q9VJR2 DRO
                                                               RESULT 122
                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                      쇰
                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
```

```
Registry C., Gentralian A.E., Garrell J.H., Gu Z., Genbart W. H., Clades R., Glodek A., Gener F., Gentrali J.H., Gu Z., Genar P., Harris M.L., Langy W.L. Lin X., Mall M. Mattal B., Kodira C.D., Kraft C., Kravitz S., Malp D., Lai Z., Mall M. Mattal B., Kodira C.D., Kraft C., Kravitz S., Malp D., Lai Z., Mall M. Mattal B., Mallon M.C., Millon M.C., Mallon M.P., Newbearn D.A., Mallon K.A., Mixon K.P., Mallon M.C., Saunders R.D., Scheeler P., Shen H., Mallon D., Mallon M.C., Standers R.D., Scheeler P., Shen H., Shing S., Mallon M.C., Standers R.D., Scheeler P., Shen H., Shing S., Mallon M.C., Standers R.D., Scheeler P., Shen H., Shing S., Mallon M.C., Standers R.D., Scheeler P., Shen H., Shing S., Mallon M.C., Standers R.D., Scheeler P., Shen H., Shing S., Mallon M.C., Standers R.D., Scheeler P., Shen H., Shing S., Mallon M.C., Standers R.M., Standers R.M., Mallon M.C., Standers R.M., Standers R.M., Mallon M.C., Standers R.M., Standers R.M., Mallon M.C., Standers R.M., Mallon M.C., Standers R.M., Standers R.M., Mallon M.C., Standers R.M., Standers R.M., Mallon M.C., Standers R.M., Standers R.M., Mallon G.M., Wallon M.C., Standers R.M., Mallon G.M., Wallon M.C., Standers R.M., Mallon G.M., Mallon G.M., Wallon M.C., Standers R.M., Mallon G.M., Mallon G.M., Mallon G.M., Standers R.M., Mallon G.M., Mallon G.M., Standers R.M., Mallon G.M., Mallon G.M., Mallon G.M., Mallon G.M., Standers R.M., Mallon G.M., Mallon G.M., Mallon G.M., Mallon G.M., M
```

161 AA.

8 8 S

ò a

```
Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                 NUCLEALIDE SEVERANCE.

STRAIN-Ankera isolate clone C9;
PubMed=15994597; DOI=10.1258/jrsm.98.7.320;
PubMed=15994597; DOI=10.1258/jrsm.98.7.320;
PubMed=15994597; DOI=10.1258/jrsm.98.7.320;
PubMed=15994597; DOI=10.1258/jrsm.98.7.320;
Pain A., Renauld H., Berriman M., Murphy L., Yeate C.A., Weir W., Kerhornou A., Astett M., Edett M., Edett M., Edett M., Edett M., Edett M., Edett M., Goble A., Griffiths Jones S., Harris D.B., Katzer F., Larke N., Lord A., Maser P., McKellar S., Moonney P., Morton F., None V., O'Neil S., Price C., Quail M.A., Rabbinowitsch E., Rawlings N.D., Rutter S., Saunders D., Seeger K., Shah T., Squares R., Squares S., Tivey A., Walker A.R., Woodward J., Dobbelaere D.A.B., Langsley G., Rajandream M.A., McKeever D., Shiels B., Tait A., Barrell B., Hall N.; ell transforming parasite Theileria annulata
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STRAIN=Ellin6076;
US DOE Joint Genome Institute (JGI-PGF);
Copeland A., Lucas S., Lapidus A., Barry K., Detter C., Glavina T., Hammon N., Israni S., Pitluck S., Richardson P.;
"Sequencing of the draft genome and assembly of Solibacter usitatus Ellin6076.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GO; GO:0005634; C:nucleus; IEA.
GO; GO:0005732; C:small nucleolar ribonucleoprotein complex; IEA.
GO; GO:0006397; P:mRNA processing; IEA.
InterPro; IPR006649; Buk_arc_LSM_core.
Pfam; PF01423; LSM; 1.
                                                                                                                                                                           Eukaryota; Alveolata; Apicomplexa; Piroplasmida; Theileriidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q33W25 SOLUS PRELIMINARY; PRT; 161 AA.
Q33W25;
13-SRP-2005, integrated into UniProtKB/TrEMBL.
13-SRP-2005, entry version 1.
TOT-FBB-2006, entry version 2.
Hypothetical protein.
ORFNames=AcidDackT 3042;
Solibacter usitatus Ellin6076.
Bacteria, Acidobacteria; Solibacteres; Solibacterales;
Solibacteraces; Solibacter.
Solibacteraces; Solibacter.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     55.6%; Score 5; DB 2; Length 161; 100.0%; Pred. No. 6e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Hypothetical protein.
SEQUENCE 161 AA; 18443 MW; 0FB85E14C75ADF5C CRC64;
                                                 05-JUL-2005, integrated into UniProtKB/TrEMBL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL; CR940347; CAI73156.1; -; Genomic_DNA.
          PRT;
                                                                  05-JUL-2005, sequence version 1.
Py-FRB-2006, entry version 3.
Hypothetical protein.
ORFNames=TA06515,
        PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             compared with T. parva.";
Science 309:131-133(2005).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Local Similarity 100.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SM00651; Sm; 1.
                                                                                                                                                                                                                                                      NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NUCLEOTIDE SEQUENCE.
                                                                                                                                                      Theileria annulata.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            31 DDTFY 35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3 DDTFY 7
                                                                                                                                                                                                              NCBI_TaxID=5874;
      Q4UID3 THEAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOLUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                              ·;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL, AJ431547; CAD24257.1; -; Genomic DNA.
GO; GO:0016021; C:integral to membrane; IEA.
GO; GO:0016020; C:membrane; IEA.
GO; GO:0004994; F:olfactory receptor activity; IEA.
GO; GO:0004972; F:receptor activity; IEA.
GO; GO:0007186; P:-G-profein coupled receptor protein signalin. .; IEA.
GO; GO:0007609; P:-Sensory perception; IEA.
GO; GO:0007669; P:-Sensory perception of smell; IEA.
GO; GO:0007669; P:-Sensory perception; IEA.
InterPro; IPR000776; GPCR Rhodgen.
InterPro; IPR000776; GPCR Rhodgen.
InterPro; IPR000725; Olfact_recept.
PANTHER, PTRN1329; Olfact_receptor; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Genome Biol. 4.R80-R80(2003).
-1- FUNCTION: Putative odorant or sperm cell receptor (By similarity).
-1- SUBCELLULAR LOCATION: Membrane; multi-pass membrane protein (By
                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Canis familiaris (Dog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Laurasiatheria; Carnivora; Fissipedia; Canidae;
                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Quignon P., Guyon R., Renier C., Cadieu B., Hitte C., Andre Galibert F.; "Comparison of the canine and human olfactory receptor gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    h 55.6%; Score 5; DB 2; Length 157; Similarity 100.0%; Pred. No. 5.8e+02; 5; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             55.6%; Score 5; DB 2; Length 159; 100.0%; Pred. No. 5.9e+02; ive 0; Mismatches 0; Indels
EMBL; AE003645; AAF53417.2; -; Genomic_DNA.
FlyBase; FBgn0032554; CG15278.
SEQUENCE 157 AA; 18142 MW; 45259692497BFF19 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      159 AA; 18340 MW; 73CEDF660C0826D7 CRC64;
                                                                                                                                                                                                                                                                                                                                                 05-JUL-2004, integrated into UniProtKB/TrEMBL.
05-JUL-2004, sequence version 1.
21-FRB-2006, entry version 15.
Diactory receptor (Fragment).
                                                                                                                                                                                                                                                                                                            Q70272_CANFA PRELIMINARY; PRT;
Q10272;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local Similarity 100.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NUCLEOTIDE SEQUENCE.
                                                                                                  Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        123 TFYYV 127
                                                                                                                                                                                      33 TFYYV 37
                                                                                                                                                                 5 TFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       similarity).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5 TPYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NCBI_TaxID=9615;
                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                         CANFA
                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Best Loc
Matches
```

ö

Gaps

ö

56+02; (6+02; (54 0); Indels

RESULT 125 Q4UID3_THEAN

ઠે g

Gaps

```
Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms
Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PubMed=16643691; DOI=10.1073/pnas.0504930102;
Feil H., Feil W.S., Chain P., Larimer F., Dibartolo G., Copeland A., Lykidis A., Trong S., Nolan M., Golteman E., Thiel J., Malfatti S., Loper J.E., Lapidus A., Detter J.C., Land M., Richardson P.M., Kyrpides N.C., Ivanova N., Lindow S.E.;

"Comparison of the complete genome sequences of Pseudomonas syringae pv. syringae B728a and pv. tomato D03000.";

Proc. Natl. Acad. Sci. U.S.A. 102:11064-11069(2005).
    Distributed under the Creative Commons Attribution-NoDerivs License
                                                                  GO; GO:0005634; C:nucleus; IEA.
GO; GO:0005732; C:small nucleolar ribonucleoprotein complex; IEA.
GO; GO:0006397; P:mRNA processing; IEA.
InterPro; IPR006649; Euk_arc_LSM_core.
Pfam; PP01423; LSM; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Pseudomonas syringae pv. syringae (strain B728a).
Bacteria; Proteobacteria; Gammaproteobacteria; Pseudomonadales;
Pseudomonadaceae; Pseudomonas.
                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ÖSSVM6;
21-DEC-2004, integrated into UniProtKB/TrEMBL.
21-DEC-2004, sequence version 1.
07-FEB-2006, entry version 10.
Ribosomal protein S6 kinase, 90kDa, polypeptide 1 (Fragment).
Homo sapiens (Human).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 163;
                                                                                                                                                                                                                                                                                    55.6%; Score 5; DB 2; Length 162;
100.0%; Pred. No. 6e+02;
ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0; Indels
                                                                                                                                                                                                                         Hypothetical protein.
SEQUENCE 162 AA; 18708 MW; B5EE7718AE781445 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        163 AA; 18862 MW; E85C44B19B68E332 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL; CP000075; AAY38896.1; -; Genomic DNA.
Complete proteome; Hypothetical protein; Signal.
SIGNAL 1 32 Potential.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  55.6%; Score 5; DB 2; I 100.0%; Pred. No. 6e+02; iive 0; Mismatches 0
                                           EMBL; AAGK0100001; EAN34178.1; -; Genomic_DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE [LARGE SCALE GENOMIC DNA].
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             integrated into UniProtKB/TrEMBL. sequence version 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      163 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             166 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QSSVM6_HUMAN PRELIMINARY; PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRELIMINARY; PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Hypothetical protein precursor.
OrderedLocusNames=Psyr_3866;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           07-FEB-2006, entry version 7.
                                                                                                                                                                                                                                                                                         55.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity luv...
5, Conservative
                                                                                                                                                                                                                                                                                                             Local Similarity 100.
les 5; Conservative
                                                                                                                                                                                                  SMART; SM00651; Sm; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NCBI_TaxID=205918;
                                                                                                                                                                                                                                                                                                                                                                                                                         DDTFY 35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ||||||
84 VDDTF 88
                                                                                                                                                                                                                                                                                                                                                                             3 DDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q4ZPM6_PSEU2
Q4ZPM6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           07-JUN-2005,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    07-JUN-2005,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUCLEOTIDE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           N
                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 129
                                                                                                                                                                                                                                                                                                                                    Matches
    ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEPPTRE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                               Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PubMed=15994558; DOI=10.1126/science.1110439;
PubMed=15994558; DOI=10.1126/science.1110439;
PubMed=15994558; DOI=10.1126/science.1110439;
PubMed=15994558; DOI=10.1126/science.1110439;
Pallon N., Baulben I.T., Pain A., Berriman M., Wilson R.J., Sato S., Ralph S.A., Mann D.J., Xiong Z., Shallon S.J., Weidman J., Taing L., Lynn J., Weaver B., Shoabib A., Domingo A.R., Wasawo D., Crabtree J., Wortman J.R., Haas B., Angiuoli S.V., Creasy T.H., Lu C., Sub B., Silva J.C., Utterback T.R., Feldblyum T.V., Pertea M., Allen J., Nierman W.C., Taracha B.L., Salzberg S.L., White O.R., Pitzhugh H.A., Morzaria S., Venter J.C., Fraser C.M., Nene V.; "Genome Sequence of Theileria parva, a Bovine Pathogen That Transforms
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Alveolata; Apicomplexa; Piroplasmida; Theileriidae;
                                                                                                                                                                                                                                                                                                                                                                                                                      55.6%; Score 5; DB 2; Length 161; 100.0%; Pred. No. 6e+02; ive 0; Mismatches 0; Indels
Submitted (JUN-2005) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                    Hypothetical protein.
SEQUENCE 161 AA; 18142 MW; C897EB62D14A2A07 CRC64;
                                                                                                                                                                                                                                                                                                                           EMBL; AAIA01000028; EAM56968.1; -; Genomic_DNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      02-AUG-2005, integrated into UniProtKB/TrEMBL. 02-AUG-2005, sequence version 1. 07-PRB-2006, entry version 3. Hypothetical protein. ORFNames=TP01_0940;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    162 AA.
                                                               STRAIN=Ellin6076;
US DOE Joint Genome Institute (JGI-ORNL);
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Science 309:134-137(2005).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5; Conservative
                                                                                                                                                                                                                      preliminary data.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      preliminary data.
                                           NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                           Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ||||||
83 DDTFY 87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3 DDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=5875;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      rheileria parva.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q4N780 THEPA
Q4N780;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Lymphocytes
                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               THEPA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 127
040/80
AC 040/80
AC 040/80
DT 02-AUG
DT 02-AUG
DT 07-FBB
DB Hypoth
DB Hypoth
CC Eukary
CC Eukary
CC BUARY
CO NCBI T
RA GATCHE
RA GATCHE
RA A11en
RA RA1ph

                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
  ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    유
```

ö

Gaps

Curns A., Formenty P.,

```
Reynolds M.G., Zhao H., Carroll D.S., Curns
Bspoalto J.J., Regnery R.L., Damon I.K.;
"A tale of two clades: monkeypox viruses.";
J. Gen. Virol. 86:2661-2672(2005).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity 100..
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               170 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local Similarity
hes 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                95 TFYYV 99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5 TFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                Hypothetical
SEQUENCE 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NON TER
NON TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SCHUA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
            ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SO FF F PRESENT TO THE PROPERTY OF THE PROPERT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                        Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia, Butheria, Buarchontoglires, Primates, Catarrhini, Hominidae,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              N.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                      EMBL; AL627313; CA114646.1; -; Genomic_DNA.

R GO; GO:000166; F:ATP binding; IEA.

R GO; GO:000166; F:nuclectide binding; IEA.

R GO; GO:0004674; F:protein serine/threonine kinase activity; IEA.

R GO; GO:0004674; F:protein serine/threonine kinase activity; IEA.

R GO; GO:0006468; F:stransferase activity; IEA.

R GO; GO:0016740; F:transferase activity; IEA.

R InterPro; IPR000371; Ser_fir_pkin_AS.

R InterPro; IPR000271; Ser_fir_pkin_AS.

R InterPro; IPR000271; Ser_fir_pkin_AS.

R InterPro; IPR000271; Ser_fir_pkin_AS.

R Pfam; PF00069; Pkinase; I.

R ProDom; PD000001; Prot_kinase; I.

R PROSITE; PS00108; PROTEIN KINASE DOM; I.

R PROSITE; PS00108; PROTEIN KINASE DOM; I.

R PLOMON; PLOMON PROTEIN KINASE ST; I.

R ATP-binding; Kinase; Nuclectide-finding; Ribosomal protein;

R Atp-binding; Kinase; Nuclectide-finding; Ribosomal protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              15-FEB-2005, integrated into UniProtKB/TrEMBL.
15-FEB-2005, sequence version 1.
15-FEB-2006, entry version 1.
07-FEB-2006, entry version 6.
MPXV-WRAIR013 (Hypothetical protein) (MPXV-SL-013) (MPXV-COP-013).
ORFNAmes-MPXV-COP-013, MPXV-SL-013, MPXV-WRAIR013,
MPXV_LIB1970_184_018, MPXV_USA2003_019_018, MPXV_USA2003_044_018;
Monkeypox virus.
Viruses; dsbNA viruses, no RNA stage; Poxviridae; Chordopoxvirinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STRAIN=MPXV-WRAIR7-61, Sierra Leone, and COP-58;
PubMed=16023693; DOI=10.1016/j.virol.2005.030;
Chen N., Li G., Liszewski M.K., Atkinson J.P., Jahrling P.B., Feng Schriewer J., Buck C., Wang C., Leffkowitz E.J., Esposito J.J.,
Harms T., Damon I.K., Roper R.L., Upton C., Buller R.M.;
"Virulence differences between monkeypox virus isolates from West
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STRAIN=Liberia_1970_184, USA_2003_039, and USA_2003_044; PubMed=16186219; DOT=10.10997vir.Ō.81215-0; Likos A.M., Sammons S.A., Olson V.A., Frace A.M., Li Y., Olsen-Rasmussen M., Davidson W., Galloway R., Khristova M.L.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 2; Length 166;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0; Indels
                                                                                                                                                               Submitted (MAY-2005) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         166 166
166 AA; 18710 MW; D7089EF1616E6134 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           55.6%; Score 5; DB 2; Ler 100.0%; Pred. No. 6.1e+02; tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Serine/threonine-protein kinase; Transferase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            167 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local Similarity 100.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Virology 340:46-63 (2005)
                                                                                                                   NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NUCLEOTIDE SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NCBI_TaxID=10244;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |||||
4 DDTFY 8
                                                                    NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3 DDTFY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QSIY06_MONPV
QSIY06;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Orthopoxvirus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE
                                                                                                                                         Harrison
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MONPV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
```

```
ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms
Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUCLEOTIDE SEQUENCE.
Liu J., Hu W., Wang S.-Y., Cui S.-J., Chi M., Yan Q.,
Hau F., Lu J., Hu W., Wang J.-J., Zhang X.-L., Wang Z.-Q.,
Wang X.-R., Song H.-D., Xu X.-N., Wang J.-J., Zhang X.-L., Wang Z.-Q.,
Xue C.-L., Brindley P.J., McManus D.P., Yang P.-Y., Feng Z., Chen Z.,
Han Z.-G.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     12-APR-2005, integrated into UniProtKB/TrEMBL.
08-NOV-2005, sequence version 2.
07-FEB-2006, entry version 5.
SCHISTOSOMA japonicum (Blood fluke).
Schistosoma japonicum (Blood fluke).
Bukaryota, Metazoa, Platyhelminthes; Trematoda; Digenea; Strigeidida; Schistosomatoidea; Schistosomatidae; Schistosomat.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "New Perspectives on Host-parasite Interplay by Comparative
Transcriptomic and Proteomic Analyses of the Human Blood Fluke,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             55.6%; Score 5; DB 2; Length 167; 100.0%; Pred. No. 6.1e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 170;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Schistosoma japonicum.";
Submitted (MAR-2005) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                          l protein.
167 AA; 19963 MW; 928269D5ADFA1352 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          18444 MW; RE79561F108B51EC CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   55.6%; Score 5; DB 2; Le 100.0%; Pred. No. 6.2e+02; tive 0; Mismatches 0;
                                                                                  EMBL; AY603973; AAV01223.1; -; Genomic DNA.
EMBL; DQ011156; AAY97415.1; -; Genomic DNA.
EMBL; DQ011157; AAY97413.1; -; Genomic DNA.
EMBL; AY741551; AAW67771.1; -; Genomic DNA.
EMBL; AY741551; AAW67771.1; -; Genomic DNA.
EMBL; DQ011153; AAX96815.1; -; Genomic DNA.
GO; GO:001603; F: virtal life cycle; IEĀ.
INCEPEO; IPR004967; POX C7 F8Ā.
PĒĀM; PP03287; POX C7 F8Ā.
PINSP; PRSF00379; VĀC C7L; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GO; GO:0005634; C:nucleus; IEA.
GO; GO:0003676; F:nucleic acid binding; IEA.
GO; GO:0008270; F:zinc ion binding; IEA.
InterPro; IPR007087; Znf_C2H2.
PFam; PF00096; Zf-C2H2; I.
PROSITE; PS00028; ZINC_FINGER_C2H2_1; I.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             100.0%; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL; AY810790; AAX26679.2; -; mRNA.
```

셤

```
Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STRAIN=ATCC 51449 / 3B1;
MEDLINE=22709201; PubMed=12810954; DOI=10.1073/pnas.1332093100;
MEDLINE=22709201; PubMed=12810954; DOI=10.1073/pnas.1332093100;
Sucrbaum S., Josenhans C., Sterzenhach T., Drescher B., Brandt P.,
Bell M., Droege M., Fartmann B., Fischer H.-P., Ge Z., Hoerster A.,
Holland R., Klein K., Koenig J., Macko L., Mendz G.L., Nyakatura G.,
Schauer D. B., Shen Z., Weber J., Frosch M., Fox J.G.;
"The complete genome sequence of the carcinogenic bacterium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NUCLEOTIDE SEQUENCE.
MEDILTNE=22803260; PubMed=12923095;
DOI=10.1128/JB.185.17.5220-5233.2003;
Miller E., Heidelberg J., Eisen J., Nelson W., Durkin A., Ciecko A.,
                                                                                                                                                                                                                                                                                                                                                                                                                  Helicobacter hepaticus.
Bacteria, Proteobacteria, Epsilonproteobacteria, Campylobacterales,
Helicobacteraceae, Helicobacter.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Bacteriophage KVP40.
Viruses; dsDNA viruses, no RNA stage; Caudovirales; Myoviridae;
T4-like viruses.
                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ;
0
                                                                             DB 2; Length 170; 5. 6.2e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 171;
                                                                                                                  Indels
 EMBL; CR378663; CAG18533.1; -; Genomic_DNA.
Complete proteome; Hypothetical protein.
SEQUENCE 170 AA; 18639 MW; 62BC48D6C8E2EBIC CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Complete proteome; Hypothetical protein.
SEQUENCE 171 AA; 19782 MW; 9EEF2ADEEIBBDC75 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Helicobacter hepaticus.";
Proc. Natl. Acad. Sci. U.S.A. 100:7901-7906(2003)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 2; Ler
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             05-001.

05-001.

05-001.

05-001.

07-FBB-2006, sequence version 1.

07-FBB-2006, entry version 7.

07-PPD-101.

08-001.

08-001.

08-001.

08-001.

08-001.

08-001.

08-001.

08-001.

08-001.

08-001.

08-001.

08-001.
                                                                                                                                                                                                                                                                                                                          01-OCT-2003, integrated into UniProtKB/TrEMBL
                                                                55.6%; Scor.
100.0%; Pred. No. ...
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          55.6%; Sco...
100.0%; Pred. No. ...
... 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            175 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL; AE017125; AAP77117.1; -; Genomic_DNA.
BioCyc; HHEP235279:HH0520-MONOMER; -.
                                                                                                                                                                                                                                                                                                                                                                                                OrderedLocusNames=HH0520; ORFNames=HH_0520;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRELIMINARY; PRT;
                                                                                                                                                                                                                                                                                    PRELIMINARY; PRT;
                                                                                                                                                                                                                                                                                                                                        01-0CT-2003, sequence version 1.
07-FEB-2006, entry version 10.
Hypothetical protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local Similarity 100.
                                                                                                                    Conservative
                                                                             Query Match
Best Local Similarity
                                                                                                                                                                                          134 KVDDT 138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |||||
63 VDDTF 67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=32025;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NCBI_TaxID=75320;
                                                                                                                                                     KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          R4 BPKV4
Q6WHR4_BPKV4
Q6WHR4;
                                                                                                                                                                                                                                                                                    Q7VIT4_HELHP
                                                                                                                  5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 135
                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
     S & B
                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                       q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                  Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
PubMed=15746425; DOI=10.1126/science.1103341;
Vezzi A., Campanaro S., D'Angelo M., Simonato F., Vitulo N.,
Lauro F.M., Cestero A., Malacrida G., Simionati B., Cannata N
Romualdi C., Bartlett D.H., Valle G.;
"Life at depth: Photobacterium profundum genome sequence and
expression analysis.";
Science 307:1459-1461(2005).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Photobacterium profundum (Photobacterium sp. (strain SS9)).
Bacteria; Proteobacteria; Gammaproteobacteria; Vibrionales;
                                                                                                                                                                                                                                                                                                                                      Gould S.B., Sommer M.S., Hadfi K., Zauner S., Maier U.G.; "Transport of proteins into multimembranous plastids."; Submitted (SEP-2004) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  55.6%; Score 5; DB 2; Length 170; 100.0%; Pred. No. 6.2e+02; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               170 AA; 18877 MW; E62860E70B167E11 CRC64;
                                                                                                                                                                                                                                                                Eukaryota, Cryptophyta, Cryptomonadaceae, Guillardia.
NCBI_TaxID=55529;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL; AJ821834; CAH25374.1; -; mRNA.
GO; GO:0003652; C:ribonucleoprotein complex; IEA.
GO; GO:0003676; F:nucleoride binding; IEA.
GO:0000166; F:nucleoride binding; IEA.
InterPro; IPR012677; a b plait nuc bd.
InterPro; IPR00504; RNPI_RNA_bd.
FFR0076; RRM 1; 1.
SMART; SM00360; RRM; 1.
                                                                                                                                                                                          07-FEB-2006, entry version 6.
Putative 29 kDa ribonucleoprotein A (Fragment)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             05-JUL-2004, integrated into UniProtKB/TrEMBL.
05-JUL-2004, sequence version 1.
07-FEB-2006, entry version 9.
                                                                                                                                                   15-FEB-2005, integrated into UniProtKB/TrEMBL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  07-FEB-2006, entry version 9.
Hypothetical membrane-fusion protein.
Name-CBUI094; OrderedLocusNames-PBPRA0088;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PROSITE; PS50102; RRM; 1.
Ribonucleoprotein; Viral nucleoprotein.
                                                                                                                PRT;
                                                                                                                                                                                                                                               Guillardia theta (Cryptomonas phi)
                                                                                                                                                                       15-FEB-2005, sequence version 1.
07-FEB-2006, entry version 6.
                                                                                                                PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Vibrionaceae; Photobacterium.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local Similarity 100.
                                                                                                                                                                                                                                                                                                                       NUCLEOTIDE SEQUENCE.
                     22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 70 KVDDT 74
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NCBI_TaxID=74109;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 KVDDT 5
KVDDT
                                                                                                 QSK255;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QELVZ2 PHOPR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NON TER
SEQUENCE
                     18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                           RESULT 132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
```

ઠે

```
01-MAR-2005, sequence version 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q4D000_TRYCR
Q4D000;
                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                         .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                      Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms
Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                         Gaps
          Szczypinski B., Fraser C.; "Complete genome sequence of the broad-host-range vibriophage KVP40: Complete genome sequence of the broad-host-range vibriophage KVP40: Comparative genomics of a T4-related bacteriophage."; Bacteriol. 185:5220-5231(2003).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                       Yaba-likė disease virus (YLDV).
Viruses; dsDNA viruses, no RNA stage; Poxviridae; Chordopoxvirinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE=21176366; PubMed=11277691; DOI=10.1006/viro.2000.0761; Le H.-J., Essani K., Smith G.L.; LTHe genome sequence of Yaba-like disease virus, a yatapoxvirus."; virology 281:170-192(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Thesis (2000), Sir William Dunn School of Pathology, University
                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                               Length 175;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            55.6%; Score 5; DB 2; Length 176; 100.0%; Pred. No. 6.4e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                       0; Indels
                                                                                Miller E., Lee J., Szczypinski B.;
Submitted (JUN-2005) to the EMBL/GenBank/DDBJ databases.
 Paulsen I., Nierman W., Lee J.,
                                                                                                                                                                        al protein.
175 AA; 20874 MW; 2D95DAAA8F5E9B39 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        176 176 Potential.
176 AA; 20531 MW; S5B33869B12B09DF CRC64;
                                                                                                                                                                                                              DB 2; Ler
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QSGSES WOLTR PRELIMINARY; PRT; 179 AA. QSGSES; 01-MAR-2005, integrated into UniProtKB/TrEMBL.
                                                                                                                                                                                                                                                                                                                                                                          01-MAR-2001, integrated into UniProtKB/TrEMBL. 01-MAR-2001, sequence version 1. 07-FEB-2006, entry version 10. 16L protein precursor.
                                                                                                                                                                                                                                                                                                                                                     176 AA.
                                                                                                                                                         EMBL; AY283928; AAQ64309.1; -; Genomic_DNA.
                                                                                                                                                                                                              55.6%; Score 5; DB 2
100.0%; Pred. No. 6.4
:ive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL; AJ293568; CAC21254.1; -; Genomic_DNA.
                                                                                                                                                                                                                                                                                                                                                     PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Oxford, Oxford, UNITED KINGDOM.
                                                                                                                                                                                                                                                                                                                                                    PRELIMINARY;
                                                                                                                                                                                                                                       5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5; Conservative
T., White O.,
                                                                       NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NUCLEOTIDE SEQUENCE
                                                                                                                                                                                                             Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=132475;
                                                                                                                                                                                                                                                                             ||||||
48 VDDTF 52
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      69
                                                                                                                                                                                                                                                               2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |||||
65 KVDDT 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Yatapoxvirus.
                                                                                                                                                                       Hypothetical
                                                                                                                                                                                                                                                                                                                                                OBDHU6_YLDV
                                                                                                                                                                                     SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Lee H.J.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q5GSES WOLTR
                                                                                                                                                                                                                                                                                                                                         YLDV
                                                                                                                                                                                                                                                                                                                                                               90H060
                                                                                                                                                                                                                                                                                                                            RESULT 136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 137
δ
                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
```

:

```
NUCLECTIDE SEQUENCE.

A TAJIN=CL Brener;

B NUCLECTIDE SEQUENCE.

A Aggarwal G. Tran A.-N. Ghedin E., Worthey E.A., Delcher A.L.,

Blandin G., Westenberger S.J., Caler E., Cerqueira G.C., Branche C.,

Blandin G., Westenberger S.J., Caler E., Cerqueira G.C., Branche C.,

Blandin G., Westenberger S.J., Allund L., Attipoe P., Bontempi E.,

A Bringaud F., Burton P., Cadag E., Campbell D.A., Carrington M.,

Bringlund P.T., Fazelina G., Feldblyum T., Ferella M., Frasch A.C.,

Call K., Horn D., Hou L., Huang Y., Kindlund B., Kinngbell M.,

Angle S., Koo H., Lacerda D., Levin M.J., Lorenzi H., Louie T.,

Nalson S., Ochaya S., Osoegawa K., Pai G., Parsons M., Pentcny M.,

Nelson S., Ochaya S., Osoegawa K., Pai G., Parsons M., Pentcny M.,

Salzberg S.L., Sanchez D.O., Seyler A., Sharma R., Shetty J.,

Simpson A.J., Sisk E., Tammi M.T., Tarleton R., Teixeira S.,

Van Aken S., Vogt C., Ward P.N., Wickstead B., Wortman J., White O.,

Praser C.M., Stuart K.D., Andersson B.,

The Genome Sequence of Trypanosoma cruzi, Etiologic Agent of Chagas,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms
Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                       PubMed=15780005; DOI=10.1371/journal.ppio.0030121; Foster J., Ganatra M., Kamal I., Ware J., Makarova K., Ivanova N., Bhattacharyya A., Kapatral V., Kumar S., Posfai J., Vincze T., Ingram J., Moran L., Lapidua A., Omelchenko M., Kyrpides N., Ghedin E., Wang S., Goltsman E., Joukov V., Ostrovskaya O., Tsukerman K., Mazur M., Comb D., Koonin B., Slatko B.; "The Wolbachia genome of Enugia malayi: endosymbiont evolution within a human pathogenic nematode.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota; Euglenozoa; Kinetoplastida; Trypanosomatidae; Trypanosoma;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                   Wolbachia sp. subsp. Brugia malayi (strain TRS).
Bacteria, Foteobacteria, Alphaproteobacteria, Rickettsiales,
Rickettsiaceae, Wolbachieae, Wolbachia.
NCBI_TaxID=292805,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 5; DB 2; Length 179;
Pred. No. 6.5e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            179 AA; 20337 MW; 07EDCBC372750AC5 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               13-SEP-2005, integrated into UniProtKB/TrEMBL.
13-SEP-2005, sequence version 1.
07-FEB-2006, entry version 5.
07-Real-2006, entry version 5.
08-Real shock protein, putative.
08-RNames=Tc00.1047053509505.50;
                                                                                                                                                                                                 NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            55.6%; Scor.
100.0%; Pred. No. v...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EMBL; AE017321; AAW71079.1; -; Genomic DNA. GO; GO:0005507; F:copper ion binding; ĪEA. InterPro; IPR007533; CtaG Cox11.
PANTHER; PTHR14053; CtaG Cox11; 1.
Complete proteome.
SEQUENCE 179 AA; 20337 MW; 07EDCEC372756
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       180 AA
07-FEB-2006, entry version 7.
Cytochrome oxidase assembly factor.
OrderedLocusNames=Wbm0491;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                         PLoS Biol. 3:599-614(2005)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   96 TFYYV 100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Trypanosoma cruzi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5 TFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NCBI_TaxID=5693;
```

Gaps

```
Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PubMed=1567i160, DOI=10.1073/pnas.0409188102;
Altermann E., Russell W.M., Azcarate-Peril M.A., Barrangou R.,
Buck B.L., McAullife O., Souther N., Dobson A., Duong T., Callanan M.,
Lick S., Hamrick A., Cano R., Klaenhammer T.R.;
"Complete genome sequence of the probiotic lactic acid bacterium
Lactobacillus acidophilus NCFM";
Proc. Natl. Acad. Sci. U.S.A. 102:3906-3912(2005).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Human adenovirus type 38.
Viruses; dsDNA viruses, no RNA stage; Adenoviridae; Mastadenovirus.
                                                                                                       EMBL; CP000034; ABB62309.1; -; Genomic DNA.
GO; GO:0003700; F:transcription factor activity; IEA.
GO; GO:0006355; P:regulation of transcription, DNA-dependent; IEA.
                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            55.6%; Score 5; DB 2; Length 182; 100.0%; Pred. No. 6.6e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                55.6%; Score 5; DB 2; Length 180; 100.0%; Pred. No. 6.5e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Lactobacillus acidophilus.
Bacteria; Firmicutes; Lactobacillales; Lactobacillaceae;
Lactobacillus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL, CP000033; AAV43061.1; -; Genomic_DNA.
Complete proteome; Hypothetical protein.
SEQUENCE 182 AA; 21096 MW; 2030DA6DBD7F2C05 CRC64;
                                                                                                                                                                                                              180 AA; 20000 MW; 30ED00DFFADB95BB CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             25-0CT-2004, integrated into UniProtKB/TrEMBL.
25-0CT-2004, sequence version 1.
07-FEB-2006, entry version 6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-MAR-2005, integrated into UniProtKB/TrEMBL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 141

O64LE1 9ADEN

D 066LE1-9ADEN

C 064LE1;

C 064LE1;

DT 25-OCT-2004, integrated into UniProtKI

DT 25-OCT-2006, entry version 6.

DT 7-2006, entry version 6.

DE Hexon (Fragment).

C Viruses; dabNA viruses, no RNA stage;

CX NCBI_TAXID=46943;

RN 11

RP NUCLEOTIDE SEQUENCE.

RC STRAIN=ATCC VR-988;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QSFJR3_LACAC PRELIMINARY; PRT; QSFJR3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-MAR-2005, sequence version 1.
07-FEB-2006, entry version 7.
Hypothetical protein.
                                                                                                                                                                                                                                                                   55.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              OrderedLocusNames=LBA1227;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best Local Similarity 100.
Matches 5; Conservative
                                                                                                                                                                                                                                                                                              Local Similarity 100.
1es 5; Conservative
                                                                                                                                                                                          Complete proteome. SEQUENCE 180 AA;
                                                                                                                                                                                                                                                                                                                                                                                                        ||||||
99 VDDTF 103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          116 DDTFY 120
                                                                                                                                                                                                                                                                                                                                                                          2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3 DDTFY 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID=1579;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STRAIN=NCFM;
                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                         셤
  SSSSEE##₹8
                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Copyrighted by the UniProt Conmontium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PubMed=16275786; DOI=10.1093/nar/gki954;
Yang F., Yang J., Zhang X., Chen L., Jiang Y., Yan Y., Tang X., Wang J., Xiong Z., Dong J., Xue Y., Zhu Y., Xu X., Sun L., Chen S., Nie H., Peng J., Xu J., Wang Y., Yuan Z., Wen Y., Yao Z., Shen Y., Qiang B., Hou Y., Yu J., Jin Q.;
"Genome dynamics and diversity of Shigella species, the etiologic agents of bacillary dysentery.";
Nucleic Acids Res. 33:6445-6458(2005).
                                                                                                 BI-Sayed N.M.A., Myler P.J., Blandin G., Berriman M., Crabtree J., Aggarval G., Caler E., Renauld H., Worthey E.A., Hertz-Fowler C., Ghedin E., Pacacock C., Bartholomeu D.C., Haas B.J., Tran A.-N., Wortman J.R., Alsmark U.C.M., Angluoli S., Anupama A., Badger J., Bringaud F., Cadag E., Carlton J.M., Cerqueira G.C., Creasy T., Delcher A.L., Djikeng A., Embley T.M., Hauser C., Ivens A.C., Salzberg S.L., Shallom J., Silva J.C., Sundaram J., Westenberger S. White O., Melville S.E., Donelson J.E., Andersson B., Stuart K.D.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               06-DEC-2005, sequence version 1.

7-FBB-2006, entry version 4.

Putative transcriptional regulator LYSR-type.

Name-yeeY; OrderedLocusNames=SDY 2224;

Bacteria, Gyenteriae serotype 1 (Etrain Sd197).

Bacteria; Proteobacteria; Gammaproteobacteria; Enterobacteriales;

Enterobacteriaceae; Shigella.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             El-Sayed N., Bartholomeu D., Haas B.,
Submitted (JUN-2005) to the EMBL/GenBank/DDBJ databases.
-!- CAUTION: The sequence shown here is derived from an
EMBL/GenBank/DDBJ whole genome shotgun (WGS) entry which is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                   "Comparative Genomics of Trypanosomatid Parasitic Protozoa.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     55.6%; Score 5; DB 2; Length 180;
100.0%; Pred. No. 6.5e+02;
rative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EWBL; AAHKO1001336; EANBSB52.1; -; Genomic_DNA.
GO; GO:0005524; F:ATP binding; IEA.
GO; GO:005545; F:Unfolded proctein binding; IEA.
GO; GO:0006986; F:Unfolded proctein binding; IEA.
InterPro; IPRO01476; Chaprin_Cpn10.
Pfam; PF00166; Cpn10; 1.
PRINTS; PR00297; CHAPERONIN10.
ProDom; PD000566; Chaprin_Cpn10; 1.
Chaperone; Heat shock.
Chaperone; Heat shock.
SEQUENCE IBO AA; 20098 MW; 031E9A1B5742E90A CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   180 AA; 20098 MW; 031E9A1B5742E90A CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         06-DEC-2005, integrated into UniProtKB/TrEMBL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       180 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity 100...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                preliminary data.
                                                                              NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUCLEOTIDE SEQUENCE.
Disease.";
Science 0:0-0(2005)
                                                                                                                                                                                                                                                                                                                                                                                                                               Science 0:0-0(2005)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    144 KVDDT 148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=300267;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STRAIN=CL Brener;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q32EE6_SHIDS
Q32EE6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SHIDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        O32EE6

ACO

O33EE6

O33EE6

O33EE66

O33EE66

O33EE66

O33EE666

O33EE666

O33EE6666

O33EE6666

O33EE6666

O33EE66666

O33EE666666

O33EE66666

O33EE666666

O33EE66666

O33EE66666

O33EE66666

O33EE66666

O33EE666666

O33EE66666

O33EE666666

O33EE66666

O33EE666666

O33EE66666

O33EE66666

O33EE66666

O33EE66666

O33EE66666

O33EE66666

O33EE66666

O33EE66666

O33EE666666

O33EE666666

O33EE66666

O33EE66666

O33EE66666

O33EE66666

O33EE666666

O33EE66666

O33EE66666

O33EE66666

O33EE66666

O33EE66666

O33EE666666

O33EE666666

O33EE66666

O33EE666666

O33EE666666

O33EE6666666

O33EE6666666

O33EE6666666

O33EE666666666

O33EE666666666666

O33EE666666666

O33EE6666666

O33EE66666666

O33EE66666666
```

ઠે

186 AA.

PRT;

```
Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms
Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                               01-0CT-2003, integrated into UniProtKB/TrEMBL.
01-0CT-2003, sequence version 1.
07-FEB-2006, entry version 12.
Conserved NAC domain protein (BTF domain, basal transcription factor).
                                                                                                                                                                                                                                                                                                              Bankier A.T., Spriggs H.F., Fartmann B., Konfortov B.A., Madera M., Vogel C., Teichmann S.A., Ivens A., Dear P.H.; "Integrated mapping, chromosomal sequencing and sequence analysis of Cryptosporidium parvum."; Genome Res. 0:0-0(2003).
                                                                                                                                                                                                                                                                                                                                                                                                                           STRAIN-Iowa type II;
PubMed=15044751; DOI=10.1126/science.1094786;
Abrahamen M.S., Templeton T.J., Enomoto S., Abrahante J.E., Zhu
Lancto C.A., Dear M., Liu C., Widmer G., Tzipori S., Buck G.A., X
Bankier A.T., Dear P.H., Konfortov B.A., Spriggs H.F., Iyer L.,
Anantharaman V., Aravind L., Kapur V.;
"Complete genome sequence of the apicomplexan, Cryptosporidium
                                                                                                                                                                                                                 Eukaryota, Alveolata, Apicomplexa, Coccidia, Eimeriida,
Cryptosporidiidae, Cryptosporidium.
NCBI_TaxID=5807;
                                                                     '2_CRYPV
Q7YYF2_CRYPV PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Science 304:441-445(2004).
                                                                                                                                                                                                  Cryptosporidium parvum.
                                                                                                                                                                                                                                                                                 NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                               NUCLEOTIDE SEQUENCE.
      30 KVDDT 34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          30 KVDDT 34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     047L35 THEFY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                parvum.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           THEFY
                                                                                                     O7YYP2
                                                    RESULT 143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 144
                                                                   Q47L35
      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠે
                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                            Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STRAIN=TUSO2;
PubMed=15510150; DOI=10.1038/nature02977;
Xu P., Widmer G., Wang Y., Ozaki L.S., Alves J.M., Serrano M.G.,
Puiu D., Mangue P., Akiyoshi D., Mackey A.J., Pearson W.R., Dear P.H.,
Bankier A.T., Peterson D.L., Abrahamsen M.S., Kapur V., Tzipori S.,
Buck G.A.;
PubMed=15364976; DOI=10.1128/JCM.42.9.3963-3969.2004;
Sarantis H., Johnson G., Brown M., Petric M., Tellier R.;
"Comprehensive detection and serotyping of human adenoviruses by PCR
                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "The genome of Cryptosporidium hominis.";
Nature 431:1107-1112(2004).
-!- CAUTION: The sequence shown here is derived from an EMBL/GenBank/DDBJ whole genome shotgun (WGS) entry which is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL; AAEL01000012; EAL38115.1; -; Genomic_DNA.
GO; GO:0003779; F:actin binding; IEA.
GO; GO:0007010; P:cytoskeleton organization and biogenesis; IEA.
InterPro; IPR0027128; NAC.
InterPro; IPR003128; VHP.
                                                                                                                                                                                                                                                                                                                                                             ;
                                                                                                                                                                                                                                                                                                                         55.6%; Score 5; DB 2; Length 183; 100.0%; Pred. No. 6.6e+02; Live 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  55.6%; Score 5; DB 2; Length 186; 100.0%; Pred. No. 6.7e+02; ative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Cryptosporidium hominis.
Bukaryota; Alveolata; Apicomplexa; Coccidia; Eimeriida;
Cryptosporidiidae; Cryptosporidium.
                                                                                                                                                                                                                                                                          183 A4; 20383 MW; 63F0C725BE3A82C1 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pfam; PF01849; NAC; 1.
SEQUENCE 186 AA; 21326 MW; 7AE6C179CBEB87B9 CRC64;
                                                                                                                                                         SWR; QG4LEI; 1-182.

GO; GO: 0019028; C:viral capsid; IEA.
GO; GO: 0019028; C:viral capsid; IEA.
INTEPPRO; IPRO(00736; Adeno hexon.
Pfam; PF01065; Adeno hexon.
Probon; PD002815; Adeno hexon; 1.
Probon; PD002815; Adeno hexon; 1.
NON TER 183 183
SEQUENCE 183 AA; 20383 MW; 63F0C725BE3A82C1 CRC6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      12-APR-2005, integrated into UniProtKB/TrEMBL.
                                                                                                                                             EMBL; AY288124; AAQ24013.1; -; Genomic_DNA
                                        and sequencing.";
J. Clin. Microbiol. 42:3963-3969(2004).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QSCNCS_CRYHO PRELIMINARY; PRT; QSCNCS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      12-APR-2005, sequence version 1.
O-FBB-2006, entry version 7.
NAC domain protein.
ORFNames=Chro.60282;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity 100.8
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                           5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    preliminary data.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                     Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                   96 KVDDT 100
                                                                                                                                                                                                                                                                                                                                                                                        1 KVDDT S
                                                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CRYHO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 142
                                                                                                                                                                                                                                                                                                                                                        Matches
ò
                                                                                                                                                                                                                                                                                                                                                                                                                      쉽
```

G.A., Xu P.,

```
ö
                                                                                                                                                                                        Gaps
EMBL; BX538351; CAD98533.1; -; Genomic_DNA.
EMBL; AAEE01000002; EAK89888.1; -; Genomic_DNA.
GO; GO:0003719; F:actin binding; IEA.
GO; GO:000710; P:cytoskeleton organization and biogenesis; IEA.
InterPro; IPR0027128; NAC.
                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                       OrderedLocusNames=Tfu_2804;
Thermobifida fusca (efrain XX).
Bacteria: Actinobacteria; Actinomycetales;
Streptosporanglinese; Nocardiopsaceae; Thermobifida.
                                                                                                                                                       Length 186;
                                                                                                                                                                                      0; Indels
                                                                                               Pfam; PF01849; NAC; 1.
SEQUENCE 186 AA; 21241 MW; 805A07041AFB87A1 CRC64;
                                                                                                                                                   55.6%; Score 5; DB 2; Ler
100.0%; Pred. No. 6.7e+02;
ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                     13-SEP-2005, integrated into UniProtKB/TrEMBL. 13-SEP-2005, sequence version 1. PV-FEB-2006, entry version 6. Putative ATP/GTP-binding protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           [1] NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA]
US DOE Joint Genome Institute;
                                                                                                                                                                                                                                                                                                                                         188 AA.
                                                                                                                                                                                                                                                                                                                                        PRT;
                                                                                                                                                                                                                                                                                                                                        PRELIMINARY;
                                                                                                                                Query Match
Best Local Similarity 100....
S; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=269800;
```

1 KVDDT 5

ö

Gaps

```
Pfam; PF00132; Hexapep; 2.
PROSITE; PS00101; HEXAPEP_TRANSFERASES; UNKNOWN_1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NUCLEOTIDE SEQUENCE.
                                                                                                      189 AA;
                                                                                                                                                                                                       Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity
                                                                                                                                                                                                                                                                                                                                                KVDDT 63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          31 TFYYV 35
                                                                                                                                                                                                                                                                                                   1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5 TFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=4097;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   06C1Q6_YARLI
Q6C1Q6;
                                                                           Transferase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Name=ACRE36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NON TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                     59
                                                                                                          SEQUENCE
                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TOBAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           YARLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best Loc
Matches
                                                                                                                                                                                                                                            Matches
      SKRR
                                                                                                                                                                                                                                                                                                          ઠે
                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                   Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms
Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Larimer F., Land M.;
"Annotation of the draft genome assembly of Enterococcus faecium DO.";
Submitted (JUN-2005) to the EMBL/GenBank/DDBJ databases.
Copeland A., Lucas S., Lapidus A., Barry K., Detter J.C., Glavina T., Hammon N., Israni S., Pitluck S., Di Bartolo G., Chain P., Schmutz J., Larimer F., Land M., Lykidis A., Richardson P.; "Complete sequence of Thermobifida fusca YX."; Submitted (JUL-2005) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    O'Transferase hexapeptide repeat.
ORFNames=EfaeDRAFT 1650,
Enterococcus faecium DO.
Bacteria, Firmicutes; Lactobacillales, Enterococcaceae, Enterococcus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Hammon N., Israni S., Pitluck S., Richardson P., Israni S., Pitluck S., Richardson P., Israni S., Pitluck S., Richardson P., Israni S., Pitluck S., Pitluck S., Richardson P., Israni S., Pitluck S., 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US DOB Joint Genome Institute (JGI-PGF);
Copeland A., Lucas S., Lapidus A., Barry K., Detter C., Glavina T.,
Hammon N., Israni S., Pitluck S., Richardson P.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US DOE Joint Genome Institute (JGI-PGF);
Copeland A., Lucas S., Lapidus A., Barry K., Detter C., Glavina T., Hammon N., Israni S., Pitluck S., Richardson P.;
Submitted (JUN-2005) to the EMBL/GenBank/DDBJ databases.
-!- CAUTION: The sequence shown here is derived from an EMBL/GenBank/DDBJ whole genome shotgun (WGS) entry which is
                                                                                                                                                                                                                                                                                         EMBL; CP000088; AAZ56837.1; -; Genomic_DNA.
GO; GO:0005524; F:ATP binding; IEA.
GO; GO:000525; F:GTP binding; IEA.
GO; GO:0007264; P:Small GTPase mediated signal transduction; IEA.
INTERPRO; IPR001806; Ras trnsfrmng.
PF03029; ATP_bind_1; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   55.6%; Score 5; DB 2; Length 188; 100.0%; Pred. No. 6.7e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Submitted (JUN-2005) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        188 AA; 20464 MW; 9BAC9AEA219FB6F5 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL; AAAK03000013; EAN10199.1; -; Genomic_DNA.
GO; GO:0016740; F:transferase activity; IEĀ.
InterPro; IPR001451; Hexapep_transf.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     11-OCT-2005, integrated into UniProtKB/TrEMBL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        189 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STRAIN-DO;
US DOE Joint Genome Institute (JGI-ORNL);
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    11-OCT-2005, sequence version 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRINTS; PRO0449; RASTRNSFRMNG.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          entry version 3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       preliminary data.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NUCLEOTIDE SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NUCLEOTIDE SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NUCLEOTIDE SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NCBI_TaxID=333849;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |||||
71 VDDTF 75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Complete proteome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q3Y144_ENTFC
Q3Y144;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   07-FEB-2006,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRAIN=DO;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q3Y144_ENTFC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
   SERBERGCCCCRARAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DDA REPARED DO THE PROCESS OF THE PR
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Copyrighted by the Uniprot Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PubMed=15598806; DOI=10.1105/tpc.104.026013; Rowland O., Ludwig A.A., Merrick C.J., Baillieul F., Tracy F.E., Rowland O., Ludwig A.A., Merrick C.J., Baillieul F., Tracy F.E., Jones J.D.; Fritz-Laylin L., Nekrasov V., Sjolander K., Yoshioka H., Jones J.D.; "Functional Analysis of Avr9/Cf-9 Rapidly Blicited Genes Identifies a Protein Kinase, ACIK1, That Is Besential for Full Cf-9-Dependent Disease Resistance in Tomato."; Plant Cell 17:295-310(2005).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Nicotiana tabacum (Common tobacco).

Nikaryota, Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicctyledons; core eudicotyledons; agterids; lamiids; Solanales; Solanaceae; Nicotiana.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity.
OrderedLocusNames=YALIOF142899;
OrderedLocusNames=YALIOF142899;
OrderedLocusNames=YALIOF142899;
Surrowia lipolytica (Candida lipolytica).
Eukaryota, Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;
Saccharomycetales; Dipodascaceae; Yarrowia.
NCBI_TaxID=4952;
                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 2; Length 191;
0. 6.8e+02;
ches 0; Indels
                                                    Length 189;
                                                                                                     Indels
AC49EF58AF3D26A8 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          191 AA; 21454 MW; B6CAFD141916CFB1 CRC64;
                                                 DB 2; Ler
. 6.8e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (Fragment)
                                                                                                                                                                                                                                                                                                                                                                                              01-FEB-2005, integrated into UniProtKB/TrEMBL, 01-FRB-2005, sequence version 1. 07-FEB-2006, entry version 6. Avr9/Cf-9 rapidly elicited protein 36 (Fragmer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      16-AUG-2004, integrated into UniProtXB/TrEMBL
                                                                                                                                                                                                                                                                                                                                                  191 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          192 AA.
                                              55.6%; Score 5; DB 2
100.0%; Pred. No. 6.8
ive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity 100.0%; Pred. No. 6.8 5; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL, AY775033, AAV92892.1; -; mRNA.
GO; GO:0004194; F:pepsin A activity; IEA.
GO; GO:0006508; P:proteolysis; IEA.
InterPro; IPR00907; Pept Aspartc_cat.
InterPro; IPR001461; Peptidase_A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               55.6%; Score 5; D
100.0%; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PANTHER; PTHR13683; Peptidase A1; 1.
                                                                                                                                                                                                                                                                                                                                                  PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       16-AUG-2004, sequence version 1. 07-PEB-2006, entry version 12.
20753 MW;
                                                                                                                                                                                                                                                                                                                                                QSMJW8_TOBAC PRELIMINARY;
QSMJW8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRELIMINARY;
                                                                                                        5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 147
06C106
06C106
AC 06C106
DT 16-AUG
DT 10-AUG
DT 07-PEB
DB Simila
GN OT-PEB
OS YATTOW
OC BURARY
OC SECHARY
OX NCBL T
```

Gaps

```
Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                             EMBL; AALG01000004; EAP00103.1; -; Genomic DNA.
GO; GO:0003700; F:transcription factor actIvity; IEA.
GO; GO:0006355; P:regulation of transcription, DNA-dependent; IEA.
DNA-binding; Hypothetical protein; Transcription;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 150
Q3FPC2 9BURK
1D G3FPC2
O3FPC2
DT G3FPC2;
DT 08-NOV-2005, integrated into UniProtKB/TrEMBL.
DT 08-NOV-2005, sequence version 1.
DT 07-FEB-2006, entry version 3.
DE Transport-associated precursor.
GN NoVENames=RferDRAFT 1177;
GS Rhodoferax ferrireducens DSM 15236.
CC Bacteria, Proteobacteria, Betaproteobacteria; Burkholderiales;
CC Comamonadaceae; Rhodoferax.
CC NOVENAMES SEQUENCE.
RP NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Bacteria; Proteobacteria; Betaproteobacteria; Neisseriales;
Neisseriaceae; Vogesella.
NCBL_TaxID=45465;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        55.6%; Score 5; DB 2; Length 195; 100.0%; Pred. No. 6.9e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                         0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STRAIN=ATCC19706;
van de Loo F.J., Keese P., Llewellyn D.;
Submitted (SEP-1998) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                               194 AA; 22316 MW; 0196B922CC0ABB47 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           195 AA; 21939 MW; 726A35252A9DD3F8 CRC64;
                                                                                                                                                                                                                                                                 Score 5; DB 2; Le:
Pred. No. 6.9e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-MAY-2000, integrated into UniProtKB/TrEMBL. 01-MAY-2000, sequence version 1 07-FBB-2006, entry version 12. Pseudomenas indigofera.
                                                                                                                                                                                                                                                 55.6%; Sco...
100.0%; Pred. No. ...
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        195 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL, AF088856; AAD54002.1; -; Genomic_DNA.
InterPro; IPR005303; MOSC_N.
Pfam; PF03473; MOSC_N.
Pfam; PF03476; MOSC, 1.
Pfam; PF03476; MOSC N; 1.
Hypothetical protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q9RBX9_PSEIN PRELIMINARY; PRT;
                                                                                                                                                                                                                                       Query Match
Best Local Similarity 100...
5. Conservative
                                                                                                                                                                                         Transcription regulation. SEQUENCE 194 AA; 22316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local Similarity 100.
1es 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |||||
174 VDDTF 178
                                                                                                                                                                                                                                                                                                                                                                                                                      58 TFYYV 62
                                                                                                                                                                                                                                                                                                                                                                         5 TFYYV 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2 VDDTF 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 149
Q9RBX9_PSEIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                O9RBX9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
             Š
                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STIKE BER REPRESENTED THE SOLUTION OF THE SOLU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                          CTRAIN-CLIB 122

STRAIN-CLIB 122

Whomed=1522592; DOI=10.1038/nature02579;

Pubmed=1522592; DOI=10.1038/nature02579;

A Lafontaine I., de Montigny J., Marck C., Neuveglise C., Talla B.,

Lafontaine I., de Montigny J., Marck C., Neuveglise C., Talla B.,

Goffard N., Frangeul L., Aigle M., Anthouard V., Babour A., Barbe V.,

Barnay S., Blanchin S., Beckerich J.-M., Beyne E., Bleykasten C.,

Bolsrame A., Boyer J., Cattolico L., Confanioleri F., de Daruvar A.,

Hantraye F., Hennequin C., Jauniaux N., Joyer P., Kachouri R.,

Hantraye F., Koszul R., Lemaire M., Lesur I., Muller H.,

Nicaud J.-M., Nikolski M., Oztas S., Ozier-Kalogeropoulos O.,

Pellarz S., Potler S., Richard G.-F., Straub M.-L., Suleau A.,

Swennen D., Tekaia F., Nesolowski-Louvel M., Westhof E., Wirth B.,

Zeniou-Meyer M., Zivanovic Y., Bolotin-Pukuhara M., Thierry A.,

Bouchier C., Caudron B., Scarpelli C., Gaillardin C., Weissenbach J.,

"Genome evolution in yests.",
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Copyrighted by the UniProt Consortium, see http://www.uniprot.org/terms Distributed under the Creative Commons Attribution-NoDerivs License
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Hammon N., Israni S., Pitluck S., Richardson P., "Sequencing of the draft genome and assembly of Marinobacter aquaeolei
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US DOE JOINT Genome Institute (JGI-PGF);
Copeland A., Lucas S., Lapidus A., Barry K., Detter J.C., Glavina T.,
Hammon N., Israni S., Pitluck S., Richardson P.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         preliminary data.
FUNCTION: Repressor involved in choline regulation of the bet genes (By similarity).
PATHWAY: Betaine biosynthesis from choline; regulation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Darimer F., Land M.;
"Annotation of the draft genome of Marinobacter aquaeolei VT8.";
Submitted (OCT-2005) to the EMBL/GenBank/DDBJ databases.
-!- CAUTION: The sequence shown here is derived from an EMBL/GenBank/DDBJ whole genome shotgun (WGS) entry which is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      06-DEC-2005, integrated into UniProtKB/TrEMBL.
06-DEC-2005, sequence version 1.
06-DEC-2005, sequence version 1.
Hyporhetical protein.
ORFNames-MaquDRAFT_1985;
Marinobacter aquaeolei VT8.
Bacteria; Proteobacteria; Gammaproteobacteria; Alteromonadales;
Alteromonadaceae; Marinobacter.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          55.6%; Score 5; DB 2; Length 192; 100.0%; Pred. No. 6.9e+02; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Submitted (OCT-2005) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        192 AA; 21061 MW; 304DA60AA742FFD9 CRC64;
[1]NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              194 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL; CR382132; CAG78215.1; -; Genomic_DNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US DOE Joint Genome Institute (JGI-ORNL);
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q36SQ4_MARHY PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUCLEOTIDE SEQUENCE.
STRAIN=VT8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               157 KVDDT 161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NCBI_TaxID=351348;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Complete proteome.
SEQUENCE 192 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 KVDDT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            윱
```

```
RG STRAIN-DSW 15236;

RG US Doin Genome Institute (JGI-PGF);

RA Hammon N. Israni S., Lapidus A., Barry K., Detter J.C., Glavina T.,

RA Hammon N., Israni S., Lapidus A., Barry K., Detter J.C., Glavina T.,

RT Hammon N., Israni S., Pitluck S., Richardson P.;

RT Hammon N., Israni S., Pitluck S., Richardson P.;

RT Submitted (AUG-2005) to the EMBL/GenBank/DDBJ databases.

RA JI MUCLEOTIDE SEQUENCE.

RA JAINEDSM 15236;

RG US DOE Joint Genome Institute (JGI-ORNL);

RA JAINEDSM 15236;

RG US DOE Joint Genome Institute (JGI-ORNL);

RT DSM 15236;

RJ SIDMAITED TO THE EMBL/GenBank/DDBJ databases.

RI Submitted (AUG-2005) to the EMBL/GenBank/DDBJ databases.

CC LC COPYLIGHER N. DALPON THE SEQUENCE Shown here is derived from an EMBL/GenBank/DDBJ whole genome shotgun (WGS) entry which is preliminary data.

CC COPYLIGHED WHOLE CONSORTIUM, see http://www.uniprot.org/terms

CC COPYLIGHED WHOLE CONSORTIUM, see http://www.un
```

Search completed: May 17, 2006, 06:27:38 Job time : 263 secs

126 KVDDT 130

8 8